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MONEY



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MONEY:

ITS CONNEXION WITH RISING AND
FALLING PRICES

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BY

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THIRD EDITION

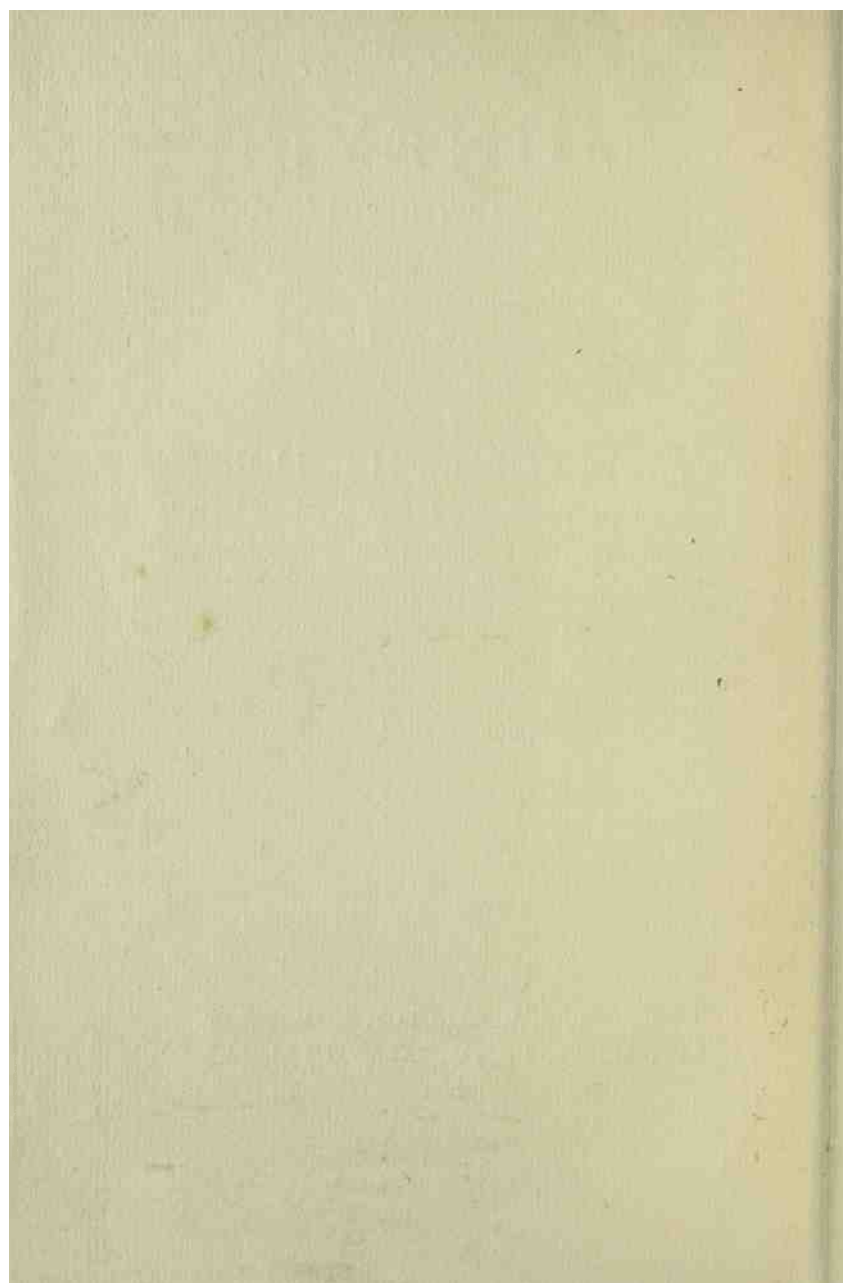
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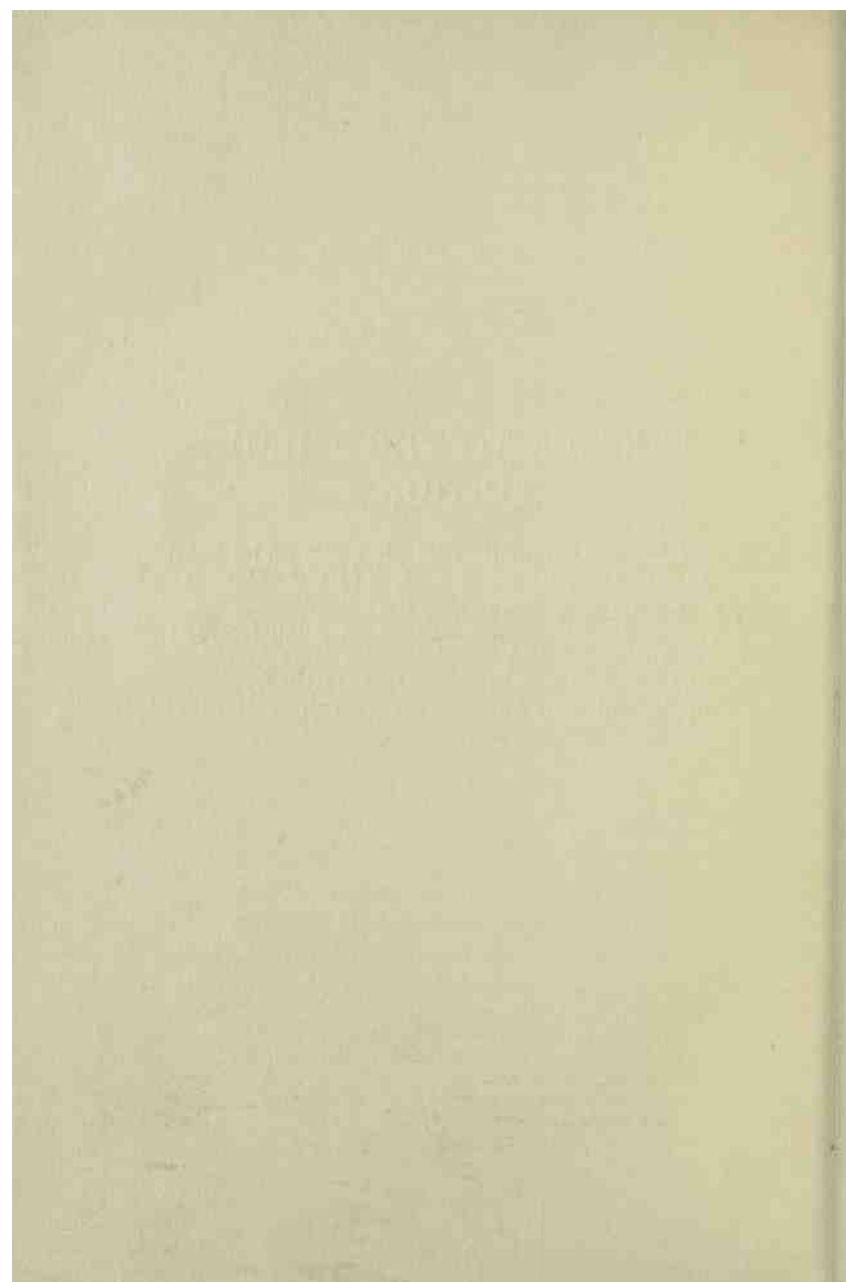
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PREFACE TO THE THIRD EDITION

THIS book was originally projected as an additional chapter to the author's *Wealth, a brief Explanation of the Causes of Economic Welfare*.

The first edition was written in August, 1918; sections 6 and 7 and the Appendix were added in April, 1920; and now, in February, 1921, the Appendix is supplemented by an Addendum on the year 1920.



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MONEY

ITS CONNEXION WITH RISING AND FALLING PRICES

§ 1. *Introduction.*

Many economic principles can be dealt with best in the first place on the assumption that when a change is observed in the price of a particular commodity or service it means a change of value peculiar to that one kind of commodity or service, and is not merely a part of a general change in the level of prices, which is only another name for a change in the value of money. In civilized countries in ordinary times, as in England for nearly a century before the War broke out in 1914, general changes in prices—rises or falls of prices taken as a whole—were perceptible enough to experts and students, but were too gradual to be realised by the mass of the people, or even to exercise any easily recognized influence on the actions of the commercial and investing classes. In 1913 the author of *Wealth : a Brief Explanation of the Causes of Material Welfare*, might well feel himself justified in omitting the subject. But in 1918 the position is different : the War has brought about a change in the general level of prices or value of money so great and so rapid that it is perceptible to everyone, and has immensely disturbed the relative material welfare of classes and individuals and become an acknowledged cause of action in numerous directions.

To endeavour to acquire some clear notion of what

makes the value of money change has become the duty of all who think themselves capable of expressing useful opinions on economic affairs. The following pages embody an attempt to assist in this task. They do not profess to be exhaustive : investigation of the past and discussion of schemes for the future have both been sacrificed in order that space might be gained for treatment of the present.

§ 2. *Recognition and measurement of changes in the value of money.*

A great many attempts have been made to define money in few words. They have failed like similar attempts to define other economic terms commonly used in ordinary language. They fail because money, like most of the other great economic terms, and like nearly all words in common use, means different things in different contexts. In a context like the present, which suggests an investigation into the causes of rising and falling prices, it means the unit of account commonly used in purchases and sales and other commercial transactions. In the United Kingdom, Australia and South Africa, people buy goods with and sell them for pounds, shillings and pence, and "prices" are always expressed in quantities of these units : in the United States and Canada dollars and cents are used for the purpose : in France, francs and centimes : in India rupees, annas and pice. But as the cent and centime are merely decimal fractions of the dollar and franc, and the shilling and penny merely vulgar fractions of the pound, and annas and pice the same of the rupee, we can say for short and without any risk of being misunderstood, that the unit of account in these countries is the pound, the dollar, the franc, and the rupee. When, then, it is said in England that the value of money has fallen, what is meant is that

a pound sterling, £1, will buy less than before : when the same words are used in the United States what is meant is that a dollar, \$1, will buy less ; when in France, that a franc, 1f., and in India, that a rupee, R1, will buy less. Thus an alteration in the general level of prices is the same thing as an alteration in the value of money, except of course that it is upsidedown, a fall in the value of money being a rise in the general level of prices, and a rise in its value being a fall in that level. As prices are expressed in quantities of the unit of account, this is a matter which could not possibly be otherwise. The price of things is the money got for them ; the value of money is the things got for it.

Till recently there have been many persons, and perhaps there still are some, who manifest an extraordinary reluctance to admit the occurrence of any change in the general level of prices in their own time. They appear to have at the back of their minds an impression that money has become invariable in value, so that prices taken as a whole are no longer subject to change, however much variation there may be in the prices of particular commodities. Why such changes should have been possible in the past, as they admit, and not in the present, they are never able to explain, and their reluctance to admit the possibility of changes in the present is only the consequence of their being so habitually accustomed to measure values by money that they feel towards any suggestion that the value of money itself wants measuring just as the aged villager feels towards the suggestion that the distance between two milestones from which he has throughout life taken his idea of a mile is fifty yards short ; and the suggestion that the value of money has changed appears as incredible to them as the suggestion that the whole of the West Riding of Yorkshire had risen a foot between

two Ordnance Surveys would appear to the average inhabitant of Huddersfield.

Being unable to bring forward any reasons why changes in the value of money and general level of prices should have become impossible, those who dislike the idea are obliged to confine themselves to questioning the existence of each particular change which happens to take place in their time. It is therefore necessary for us to begin by making clear how such changes may be recognized and roughly measured. We cannot expect to find in actual life a general rise of prices manifesting itself as a uniform rise, say of 10 per cent. in the price of each single commodity and service. If we did expect such a thing, it would imply that we also thought that if the general level of prices remained stationary, say between to-day and next year, the price of each single commodity would be precisely the same next year as to-day. Of course we expect nothing of the kind: we know that particular prices are affected by various diverse influences and are constantly changing. In the event of a general rise or fall of prices there is no reason for supposing that these influences would be any more quiescent than when no such change was proceeding. When there is a general rise, some things will rise much and others little, and some are likely even to fall. How then can we judge whether there has been a change in the general level, and if we are satisfied that such a change has occurred, how can we judge whether it is great or small?

The process is analogous to that which would be employed in ascertaining whether and if so by how much the existing level of an acre of ground which has been very much disturbed by operations upon it is lower than it was before. Let us say that Jones and Smith have been comrades in the War, and on

the conclusion of peace they return home to find that a field belonging to Smith has been used for training recruits in trench warfare. Formerly it was flat and level with the surrounding fields, now the digging and mining have made it into something like a model of Switzerland. Smith is informed by a friend (who does not want his name mentioned) and believes, that Jones' father, the only haulier in the village, has taken advantage of its disturbed condition to carry away many loads of gravel from it. He tells this to Jones, who replies indignantly "Father would never do a thing like that," and points out that if so much gravel had been removed, the general level of the ground would have been perceptibly reduced. Smith and Jones go together to look at the ground, and to Smith's eye the field seems on the whole very decidedly lower—"about two feet," he guesses. Jones is led by bias in favour of Jones senior to think there is no difference, and draws Smith's attention to the particularly high parts of the ground: Smith in return points to the biggest depressions. To settle the question, they agree to run a level line of rods across the field sufficiently high to clear the hills and measure down from it at frequent fixed intervals, say every two yards, to the present surface. This done, they find that the average of all the measurements indicates a level of 10 inches below the old level. This is a blow to Jones, but not so much as Smith expected, so the two agree that this result "is not sufficient to go by," and take another line across the field; this shows an average fall of 8 inches, and averaged with the first line, 9 inches. Both being still dissatisfied, they take four more lines which give as their results falls of 11, 9, 12 and 8 inches. The average for the whole of the measurements is now $9\frac{2}{3}$, and both Smith and Jones see that more measurements will make very little difference. Smith is willing to admit that the

fall need not be more than about 10 inches, and Jones finds it expedient to abandon the argument that nothing has been removed, and to find some other defence for his parent.

Commodities and services are so numerous in kind and the kinds shade into each other so gradually, that to take into account the price of all of them is much like taking into account the level of every part of a rough field, when smoothing it is not to be thought of. We cannot do it literally, and must be content with taking a sufficient number of measurements at points selected without bias. The ordinary person's impression about a general change of prices is much like Smith's measurement of the level of his field "by the eye"; it is likely that he will be able to recognize a large change of prices—probably anything over 25 per cent., just as Smith is likely to be able to detect a fall of 10 feet in the general level of his field. When the change is not great, he is just as likely as Jones to be misled by bias into denying its existence, and in all cases bias is likely to mislead him, as it led Smith, into very faulty estimates. To arrive at agreement it is necessary, as in the case of the disturbed field, to introduce statistical methods, and this is done by the construction of what are called "index numbers" of prices. The prices of a large number of commodities at some particular date, called for this purpose the "base year" or the "standard year," are collected, and the prices of the same commodities at subsequent (or earlier) dates are represented as percentages of the prices of the base year. If beef cost 10*d.* per lb. in the base year and 13*d.* at some later date, it is put down at 100 for the first and 130 for the second period, since if it takes 13*d.* to buy what formerly could be got for 10*d.*, it takes 130*d.* to buy what could formerly be got for 100. The prices of a

number of other commodities are treated in the same way, so that each stands at 100 for the base year and some other number, larger or smaller than 100 according as its price has risen or fallen, for the period to be compared with the base-year. Then, as each of the commodities stands at 100 for the base-year, the average or "index-number" for that year will be 100, while the index number for the other date will be the average of a number of figures each of which may be above or below 100. When this index-number is above 100, the excess will indicate a rise of that much per cent. in the general level of prices, and when it is below the deficit will indicate a fall of that much. Thus in what is known as Sauerbeck's index number, in which the base or standard period is the years 1867-77 averaged, the index number for 1896 is 61; that for each of the years 1912 to 1914, 85; for 1915, 108, for 1916, 136; for 1917, 174. This means that the general level of prices was in 1896 39 per cent. below that of 1867-77, while in 1912-14 it was only 15 per cent. below, and in 1917 it was 74 per cent. above the 1867-77 level. (The figures for each year are the average of 12 records taken at monthly intervals, e.g. the 174 for 1917 is made up of figures rising from 159.3 in January to 185.1 in December.) There are many difficulties in the construction of an index number, the chief being that of finding commodities which do not vary much in kind or quality, and have prices about which dispute is impossible, but none of the difficulties are sufficient to prevent the method from making it possible to prove any substantial change in the general level of prices and to measure approximately its magnitude.¹

Granting that changes in the general level of prices

¹ For the discussion of the principles of index numbers, see A. L. Bowley. *Elements of Statistics*

or value of money can and do occur, and that we can appreciate their existence and approximately measure their magnitude, we can proceed to consider their causes. In other words we can ask why is it that a unit of account such as the pound sterling or the rupee is of greater value—will buy more—at one time than at another? The subject, or so much of it as is of immediate modern interest, may be divided according as the unit of account is a mere quantity of bullion, a coin kept by limitation at a value above that of its bullion contents, or, finally, a note.

§ 3. *The value of money or general level of prices where the unit of account is a fixed quantity of bullion, uncoined or coined.*

The unit of account has often and for long periods been nothing but a quantity—which has almost always if not always meant a weight—of a particular metal. The English “pound,” still indicated by the initial letter of the Roman *libra*, being the name of a weight as well as a unit of account, serves to remind us of that time. The introduction of coinage makes it possible to count the amount of metal, “reckon it by tale,” instead of weighing it with scales every time it passes from hand to hand, which is a great improvement, but it need not make, and sometimes has not made, any material difference to the value of the unit; a mint may coin all the bullion which any one chooses to bring to it and give it back to him free of any deduction or charge, while at the same time the law allows any one to do what he likes with the coin—to export it from the country in which it is or to melt it down at home for any purpose whatever. In this case a pound weight of bullion is freely convertible into a pound weight of coin and a pound weight of coin is freely convertible into a pound of bullion, and the two must therefore be of

equal value : if the coin were worth more than an equal weight of uncoined metal, people would be carrying the uncoined to the Mint : if coin were worth less than uncoined, they would be melting the coin down. The fact that the uncoined metal and the coined continue to exist side by side is proof of their being, weight for weight, of equal value. We are not to say that the value of the coin is determined by that of the uncoined metal any more than we are to say that the value of the uncoined metal is determined by that of the coin, but we can say unhesitatingly that the two are connected together and must stand at the same level just as much as the water in two cisterns connected by a large pipe.

This was the situation, for example, in England from soon after the end of the Napoleonic war till 1914 ; the unit of account called the " pound," originally a pound weight of silver, had through various vicissitudes come to be represented by a gold coin called a sovereign made out of 113 grains of pure gold and $10\frac{1}{4}$ of negligible alloy ; coinage was free and gratuitous, and coins could be melted or transported anywhere at the will of the owner. What, by an historical survival, was called " a pound " might have been translated into 113 grains of fine gold in every contract and commercial transaction without producing any sort of dislocation or causing any one to lose or gain. It is true that people constantly paid each other " pounds " without passing either shapeless lumps of gold or sovereigns from hand to hand : they paid in bank-notes and they paid in cheques, but any one who got a five-pound banknote (no smaller notes were allowed in England and Wales) could if he pleased demand five sovereigns for it from the bank that issued it, and any one who received a good cheque could demand payment of its amount either in sovereigns or in Bank of

England notes which could be "converted into" sovereigns by demand on the Bank. So that anyone paying or receiving "pounds" was always giving or getting something equivalent to 113 grains of gold. Thus the value of the pound was identical with the value of gold—what a pound would "buy" was just the same as what 113 grains of gold would exchange for.

So the value or purchasing power of English money—of the pound sterling—could be, and generally was, quite properly discussed as the value of gold. An answer to the question what made gold exchange for more of other commodities on the whole was an answer to the question what made the pound exchange for or "buy" more of other commodities on the whole.

The value of a precious metal is dependent on just the same things as the value of any other metal. If more people demand it (that is want it and have means to pay for it), or if the same number of persons demand more, it will rise in value, and vice versa. If more persons are willing and able to produce it, or if the persons already engaged in its production are able and willing to produce more of it, its value will tend to fall.

No one will find much difficulty in appreciating this so far as the demand for purposes other than currency are concerned. Any one can see that gold is a metal which is prized for purposes of ornament, which is extraordinarily convenient for hoarding as a store of treasure to be expended at a future date, and which is at present very useful for many industrial purposes and would be gladly used for many more if only it were cheaper. About the changes of demand in relation to all these there is so little difficulty that they are often ignored. But they are far too important for that, as is suggested by the fact that they are

estimated in ordinary times to take somewhere in the neighbourhood of a half of the annual product of the metal. We must always remember that the demand tends to increase as people become richer and more numerous, that it tends to decrease as security grows and the habit of keeping hidden hoards decays, and that it varies with industrial discovery, as for example, the invention of gold plates in dentistry, which increased the demand, and the invention of vulcanite plates, which diminished it. Further we must note that for many industrial uses the demand is extraordinarily elastic, since if gold were cheaper its use would be extended enormously—if it were cheap enough an enormous number of poor people who now have no gold ornaments would have some, and if it were cheaper still it would be largely used for roofing houses.

The demand for gold for purposes of currency is more difficult to deal with, owing to our being accustomed to think of demanding other things in exchange for currency rather than of demanding currency in exchange for other things, and also, perhaps, owing to our habit of taking examples of demand in connexion with commodities quickly consumed, like wheat, rather than commodities which only perish slowly, like houses. If we can shake ourselves loose from the effect of these habits, we shall soon find the subject less anomalous than it is often supposed to be.

The amount of metallic money in existence at any one moment of time is the sum of the amounts in the possession of individuals and institutions at that moment. It cannot grow larger without an increase either in the number of individuals and institutions who have holdings or an increase in the average magnitude of the single holding. Other things being equal, therefore, an increase in the numbers of persons and institutions with separate holdings will

increase the aggregate demand for coin in just the same way as, other things being equal, an increase in the number of persons with separate houses will increase the demand for houses. Such an increase may of course be brought about by an increase of population if the additional numbers do not consist entirely of very small children, very infirm or aged persons, paupers and others who have no separate holdings of coin. That qualification suggests that an increase may also be brought about by increasing the proportion of the people having separate holdings and by increasing the number of institutions with separate holdings: for example, when a number of old people were taken out of the workhouses and given money upon which to maintain themselves, a large number of new holdings were created, each old-age pensioner now having his little stock: and when a new company for supplying anything is established, a fresh separate holding of coin is almost always set up. This part of the subject presents no difficulty.

Given the number of separate holdings, the aggregate amount of coin will depend on the magnitude of the average separate holding. The foundation of a person's or an institution's want of such a holding of coin is easy to see: it is the necessity or convenience of having means of payment at hand. The prudent shopkeeper takes care not to leave his till wholly without coin, because he fears a customer may walk out in a huff if he has to say he has "no change"; the prudent housewife must have enough coin all through Sunday (when she may be spending nothing beyond 1*d.* or 3*d.* to the church collection) to pay for last week's washing when the cart calls for this week's early on Monday; the prudent citizen does not literally invest his last penny in War-bonds as requested by the War-Savings Committee, because

he wants the services of the bus or tram on the way home.

Before the introduction of paper currencies and methods of setting one payment against another provided by such machinery as bills of exchange and banks, the magnitude of the want for these stocks of coin must have depended largely on the amounts of money which the holder had to spend in the year and on the length of the periods for which payments such as rent and wages were made. A rich landlord with a large rent roll would be likely to have a bigger amount of coin in his possession at any time than the landlord with a small rent-roll. The richer man would receive £500 each quarter day, and gradually use that sum up till the next quarter came round: the poorer would do the same with the £100 he received at the quarter, and so would always have only about one-fifth as much in hand as the other. The farmer who paid £25 a quarter would be likely to have much less coin in hand for some time before quarter day than a neighbour who paid £100. So, too, any manufacturer who had large sums to pay in wages at fortnightly intervals would have to hold for at least a considerable part of the fortnight more coin than his neighbour who had only a small wages bill to provide for. And supposing a custom came in of paying rents only twice a year instead of four times, both the landlord and the farmer would have to keep more coin by them on the average: and if weekly wages became the custom in place of fortnightly, both employers and workmen would have to keep less by them on the average, as their stocks would be replenished more frequently. Further, if money became less valuable, so that more must be paid as the rent of any particular farm or the wages of any particular man, larger stocks of coin would be needed.

Nowadays the situation is very different. Methods of setting one payment against another through banking and other agencies have done away with the necessity of a tenant holding an amount of coin in preparation for paying his rent and gradually increasing it as quarter day draws nearer, and also with the necessity of landlords holding a large amount of coin after quarter day and letting it down only gradually during the quarter. The rent is paid by a bank writing certain figures in its books which enable the landlord instead of the tenant to draw out the sum: the bank does not keep one stock of coin for the tenant and another for the landlord; both stocks are dispensed with. Even when there were no £1 and 10s. notes, the firm that had to pay £1,000 in wages did not in modern times have to accumulate £1,000 gradually throughout the week before pay day, but simply sent a clerk to the bank for the money an hour or two before it was paid out.

Paper currencies containing notes of small denomination have obviously relieved every one except banks and governments of the necessity of holding coin unless in preparation for paying sums under the amount of the smallest note. Coin is only wanted as "the change" of a note. When there are ten-shilling notes in circulation, the private person however rich does not want more than about 7s. in coin, and a poor person, unless he is very poor indeed, will have just as much. Firms which have to pay large sums in wages do not want any coin to pay those men who receive multiples of 10s. They only want coin to pay the surpluses over multiples of 10s. The consequence is that, when the amounts held by governments and banks are left out of account, the magnitude of the average holding of coin depends almost entirely on the magnitude of the smallest note which is allowed by law and is generally acceptable. If £5

is the lowest note, a great deal of coin will be required, if £1 or 10s. much less, and if a dollar, still less. Increases of income will make no difference except in so far as they go to the very poorest class: longer or shorter intervals between periodical payments will only make this difference, that "change" is less likely to be required in payments made at longer intervals, since salaries, rents and other payments are more likely to be for multiples of the smallest note when they are paid at long intervals than when paid at short ones. Diminution in the value of money (higher prices) will not greatly tend to increase the want for coin, since it is not in the least likely to cause a withdrawal of the smallest note from circulation, and when prices are higher, more things will be in the region where purchases are made by notes: given that ten-shilling notes are in circulation, and are to continue in circulation, doubling prices will not make people want many more half-crowns or other silver coins and will make them want fewer halfpennies.

How much coin will be held by the governments which issue paper currency and by banks, whether they issue bank-notes or not, actually depends at present not so much on what would be thought necessary or desirable by a dispassionate and well-informed observer who could feel confidence that his opinion would be accepted by all, as on the decision arrived at by government and banking authorities, who often accept wholly erroneous theories, and who have to be guided to a large extent by the erroneous theories held by the public even when they do not accept them. So we find in different countries very different amounts of coin held "in reserve" against liabilities which seem on the face of them very much the same, and very great changes in quite short periods. In practice therefore in modern times,

any considerable and rapid change in the currency part of the want for the precious metals, especially gold, comes from change in the policy of governments. At one moment a government will accumulate enormous sums in gold to impress its subjects or its enemies with an appearance of solvency, and a few years after it will spend the whole. For a century a government will prohibit the issue of notes under £5 and prescribe that gold must be kept against all notes issued above a total of £20,000,000 or so, and then will itself issue £1 and 10s. notes and multiply the issue by six without increasing the reserve at all.

Some find a great difficulty at this point. They say they can appreciate in the abstract the argument that increased want for coin and for the metal of which the coin is composed must tend to raise the value of both the coin and the uncoined metal, but that they cannot see how the result comes about. If more gold is wanted for dental plates, it seems reasonable to expect that more will have to be paid for it, but then it is paid for in gold sovereigns, and cannot be worth more than before in them, for the two are the same thing; so, too, if more coin is wanted it is all very well to expect it to rise in value, but how can it, seeing that you only give other money for it, which money is equivalent to it?

The answer is that we do not in fact buy gold with gold, or coin with coin or even with money. We obtain the gold or coin we want by giving *other* commodities or services in exchange for them. If I, a private person, wish to increase my average holding of coin from £5 to £10, I cannot do it without somehow or other sacrificing, giving up, not money but other goods or services. I must work harder and earn more, or I must reduce my expenditure, or I must reduce my savings and consequently have

less goods of some sort or other. If I give £5 for the gold in a dental plate and a gold watch and chain, just in the same way I must give up some commodities or services for the £5, so that I am really exchanging these for the plate and watch and chain.¹ So even more obviously of any large aggregate of persons. If the people of India individually or the Government of India decide that they will keep a larger stock of gold or silver, they must obtain it by giving goods or services in exchange for it, as they have been doing for centuries.

If this is not found sufficiently convincing let us think of the converse case, in which a person sells his gold ornaments or reduces his stock of coin. Does he not then increase the demand for commodities other than gold as compared with the demand for gold? During a coal shortage I sold some gold ornaments, and immediately expended the money proceeds in the purchase of wood for fuel. Must not this have tended to make the demand for gold less and the demand for wood greater than if I had continued to keep the ornaments in a drawer and gone without a fire? So, too, if I had arranged by good management to reduce my stock of coin by £1, could I not have spent that £1 on something that I wanted, and would not this have tended to diminish the value of gold and increase the demand for the thing that I bought and therefore for things other than gold? To buy gold with gold would be as futile as to buy wheat with wheat; whenever we get gold by giving something else for it we tend to increase the demand for it, and consequently to increase its value: whenever we give gold for something else

¹ I have thought it best not to encumber the text with the suggestion that I may get the coin simply by reducing my balance at the bank. If I do this it means simply that I drive a harder bargain with the bank and the banker instead of me has to sacrifice something.

we tend to diminish the demand for it and consequently to reduce its value. For the most part every week or month or year we give as much as we get, and the temporary ups and downs of our stocks cancel each other quickly; but when we increase our holding for good or diminish it for good we exercise a permanent influence.

The exposition so far given may seem to leave no place for the theory of value being connected with marginal utility, as taught in the economic textbooks in regard to ordinary commodities. But marginal utility plays just the same part with regard to gold (both for ordinary purposes and for currency) as it does with other commodities. The lower the value of gold, the lower will be the uses to which it will be put, and the poorer will be the classes of people who are able to use it; as has been suggested above, if gold were cheap enough, it would be used for roofs, and many people who do not have things which are now made of gold because they cannot afford them would have them. This is really easy enough to understand, but it may be a little difficult to see how the marginal utility theory applies to currency. Can we say that the value of sovereigns falls as they become more plentiful and their marginal utility diminishes? Where is the marginal purchaser or the marginal purchase? Where the elasticity of demand? The answer is that the difficulty we feel is only the result of the strangeness of estimating the value of sovereigns in other things instead of, as usual, the value of other things in sovereigns. The marginal purchaser is the man who is only just convinced, or in practice in modern times the bank or Government which is only just convinced, of the desirability of increasing or diminishing the stock of coin in hand, just as the marginal purchaser of house room is the man who is only just convinced of the

desirability of paying for more accommodation. The marginal purchase is the increase or decrease which some one is only just persuaded to make ; and the elasticity of demand comes in because greater cheapness of the coin will persuade people or governments to go further in their purchases of it, and persuade them to go much further or only a little further according to circumstances. Possible economies in use and the competition of available substitutes play just the same part as they do in regard to ordinary commodities. Demand is checked by the rise of value just as in the case of other things.

The supply side of the problem of the value of the precious metals is no more anomalous than the demand side.

Gold and silver are produced like other things, because the producers want to get money. But it is just as true here as elsewhere that people only want money in order to buy other things with it, so that their real aim is the acquisition of these other things and services. Thus though they produce gold in exchange for money, which may be gold, or based on gold, they are really exchanging it for other commodities and services. There is nothing mysterious about the way gold comes from the sources of supply into the hands of the people, either as currency or as other things made of gold. It is exchanged for commodities and services just like coal or any other mineral. The workers earn bread and meat and other things by their labour in producing it just like workers in other industries. The owners of the machinery employed obtain profits and with these profits buy the things which they want in just the same way as the owners of machinery employed in other ways. The owners of the mines or other sources of supply sometimes live in luxury in Park

Lane and sometimes starve in Soho or on unproductive and unhealthy diggings, but all that they do get is got in the same way—by exchange of gold for money which is immediately paid away for other commodities and services—these being the real thing ultimately got in exchange. Every ounce of gold coming into the commercial world is exchanged for—"sold," if we may turn the word round to signify its converse—for commodities and services other than gold, and when plentiful in relation to them, it will tend to be of smaller value—will be cheaper—than when it is less plentiful. The truth of this is illustrated by the high prices of commodities and services in newly discovered or inaccessible gold-producing areas. In an area in which gold has only just been discovered gold will be of small value (general prices will be high) because it is plentiful there in comparison with commodities which have to be brought there, and with services which have to be performed by persons brought there: if the area is easily accessible, this will only be temporary, for the high prices and earnings will speedily attract commodities and workers. But if the area is and continues to be difficult of access from the rest of the world, like the Australian goldfield of the eighteen-fifties, and the Transvaal and the Yukon later, the value of gold will remain lower (general prices will remain higher) there than in the old-settled thickly peopled parts of the world because the supply of commodities and workers to the area will remain restricted by the cost of getting them there. If any one doubts this explanation he has only to ask himself whether he believes that if goldfields like those of Australia and the Yukon had been discovered in Yorkshire or on the banks of the Rhine or the Hudson, there would have been any long continuance of much higher prices in the immediate neighbourhood than in the rest of the world.

Obviously there would not, and the reason would be that the services and commodities would soon be present in sufficient quantities to equalize matters.

When gold mining was carried on in so speculative a manner as it was till quite recent times, people were tempted to think that cost of production had little or nothing to do with the value of gold. But now we hear of mines on the margin which cannot be worked if the prices of commodities and services continue so high. This simply means that they cannot be worked when gold is so cheap. We are sometimes told that gold is unlike other commodities in the fact that the stock is so large in comparison with the annual output, and this is put forward to justify regarding the value of gold as being not affected by the cost of production like that of other commodities. But there are other commodities besides the precious metals, for example, houses, of which the stock is large in proportion to the annual output, and no one thinks of suggesting that cost of production does not play its usual part in relation to these. Producers of gold sometimes reap large profits and sometimes small profits, and so do producers of houses. A largely increased demand for gold cannot be satisfied rapidly, neither can a largely increased demand for houses. Double the output of plums in any one year, and you will enormously reduce the value of plums: double the annual output of gold or houses and you will produce nothing like as much effect.

Anticipation, correct and incorrect, plays the same part in regard to the value of gold as in regard to that of other things. The terms on which people exchange things depend not on what is, but on what the exchangers believe. About the present they are often misinformed, but their mistakes soon appear and mostly cancel each other; about the future they

can only speculate, some time must elapse before the truth appears, and the mistakes are often mostly in one direction so that they do not cancel each other.

Now the price of a thing at any moment is constantly influenced by anticipations of what the demand for and the supply of the thing is going to be in the future, and the more durable the thing is, the more important are the effects of these anticipations likely to be. Thus plums were not a penny cheaper in the summer of 1918 because next year's crop was universally expected to be much larger. But when any one is in search of a house, not to rent for a short time but to buy for good and all, he finds himself met immediately by the owner's views about the demand for and supply of houses "after the war," and many years after it. If there is general agreement that the demand for houses will be good and the supply poor for many years, the value of houses will be higher than if the contrary is the case, whatever the present quantity of houses and whatever the present desire of persons for house-room and whatever their number and their means to pay for what they desire may be. It is just the same with gold as with houses, except that there is perhaps a little more probability of general error in one direction or the other in consequence of the widespread impression that gold is invariable in value. In considering whether to buy iron or any non-precious metal, and even a precious metal which is not the standard metal, men think of the future demand for and supply of that particular metal, because they think that these factors will settle its future price: but they will think nothing about the future value of the gold they are going to give for the iron. Estimates of the future value of gold, if made at all, are made quite unconsciously in the estimates which are formed of the likelihood of a general rise or fall of prices. If

people think there is going to be a general rise of prices they think—without knowing it—that gold is going to fall in value, and act accordingly. Their joint judgment is more likely to be wrong than their joint judgment about iron or tin or houses because they do not take the particular circumstances affecting the commodity into consideration. This is perhaps the explanation of the fact that at one period for no definite discoverable reason people generally overestimate the prices of the future and therefore cause a boom in the prices of the present with the result of subsequent fall and depression.

Whatever the cause of a boom, the high prices which mark it are synonymous with a low value of gold, which seems in strange contradiction with the ordinary view that in a boom "every one wants money." But the contradiction disappears if we bethink ourselves what every one wants the money for: it is to buy commodities and services in hopes of making a profit because "things are going up." People may want money, but they only want it because they want commodities and services; the fact that commodities are supposed to be going up makes it desirable to lay money out on them at once: if the money is kept, it will not buy so much. The pressure is not to add to money stocks by selling, but to deplete the stocks of money by buying as far as can be done without too great inconvenience and risk. Individuals and banks will try their hardest to carry on with the smallest possible stocks of gold, when gold is the one important thing which they do not expect to rise in value.

Thus, even if every one always paid in gold for everything immediately on receiving it, a preponderance of expectation of higher general prices (lower value of gold) in the future would to some extent raise general prices (lower the value of gold) in the

present. But people do not always pay on delivery : they frequently induce the seller to let them have the goods on condition that they will pay some time (in all important cases at some definite time), after delivery. The seller then gives the goods for nothing at the moment because he contracts to receive a certain agreed sum of gold at the agreed future date. The buyer of the goods contracts to deliver this gold at the future date. If both buyers and sellers are influenced by some wave of sentiment which makes them believe prices will go higher, the prices at which these contracts are concluded will be higher, whether there is any justification for the belief or not.

History shows that war raises prices (lowers the value of gold), and this seems very surprising to those who regard gold as the sinews of war. If it is the sinews of war, they think, it should rise, not fall ; all belligerents seem to want money very badly, and gold is the best kind of money and that which they seem to want most. But all this is fallacious ; money is not the sinews of war, and what the belligerents want is not money but various things which they hope money will buy. In their hurry to get munitions they are ready to pay away all the money they can acquire by taxes or by promising to pay money (with interest and very likely a premium) at some future date. Far from prizing money more than usual in comparison with commodities and services, they shovel out money and promises to pay money with far less reluctance than in times of peace. As for the special utility of gold, that metal is one of the few which are of no direct use for military purposes. A belligerent may sometimes think it useful to parade a large stock of it, as the German Government has done during the war, because owing to the erroneous beliefs of the public this may comfort his subjects

and disturb his enemies, but if clever and unscrupulous, he will arrange that very little of the apparent stock is real gold. Nearly every belligerent scrapes together every atom of gold he can get from the currency and elsewhere and sends it into neutral countries to purchase the things which he wants so much more. Hence it is perfectly natural that gold should lose value and that the general level of prices should rise in the countries which have and retain a money system in which the unit of account is equivalent to a quantity of gold bullion.

Thus the conclusion to which this section of our inquiry has led us is that where the unit of account in money reckonings is either a fixed quantity of free metal (e.g. gold) or a coin equivalent to such a quantity, the value of money (and therefore the general level of prices) depends on the value of the metal, which is determined in the same way as that of other commodities by the same kinds of influences acting on demand and supply.

§ 4. *The value of money or general level of prices where the unit of account is a coin of which the issue is limited.*

So much for the simplest monetary system, in which the unit of account is literally or in effect a definite weight of a certain metal. The system which can be most conveniently taken next is that in which the unit of account is still a coin, but a coin the value of which is not indeed wholly divorced, but is to some extent separated from the value of the bullion of which it is made.

The coinage of a particular metal may be "free," in the sense that any one may insist on having any amount of that metal coined for him by the Mint, without being gratuitous or done without charge. After all, we may reflect, coin is a manufactured

article, and why should it alone be manufactured for nothing? Why should not people who want coin pay for the cost of making it up as well as for the raw material, just as they pay for the making of flour into bread and the making of white paper into a printed book? Where coinage is gratuitous, it is always paid for out of Government revenues, because Government is the only agency which will do it for nothing. If private enterprise takes up the business (a thing not altogether unknown¹) it will certainly leave the demand for coin unsatisfied till coin is enough above the raw material in value to make it worth while to manufacture it. The Government might act, and sometimes has acted, on the same principle, and make the same charge for coining that private enterprise might be supposed likely to make if under ordinary competition. Further, the manufacture is one very strictly monopolized: perhaps no other monopoly has ever been protected by such draconian penalties as the monopoly of coining. What is there to prevent governments from charging considerably more than the mere cost of coining? Something was exacted under the name of "seignorage" by the seigneurs or lords who exercised the right of coining in mediaeval times, and doubtless they would have made the percentage much higher if their monopoly had been secure from the introduction of foreign coins into their territory. Modern governments could probably charge more with safety, but have been restrained from making heavy charges and sometimes from making any at all by the reason naively suggested by the preamble of the statute 18 Car. II. c. 5, which established gratuitous coinage in England, "An Act for the Encouragement of Coinage." This runs: "Whereas

¹ For a fairly modern example, see *Quarterly Journal of Economics*, August, 1917, pp. 600-634.

it is obvious that the plenty of current coins of gold and silver of this kingdom is of great advantage to trade and commerce."

The effect of a charge for coining is to tend to raise the ordinary value of the coin above that of the uncoined metal by the amount of the charge, just as any charge for the manufacture of any other article ordinarily raises its price by a corresponding amount above the value of the raw material. It restricts the production until the manufactured article is sufficiently above the value of the raw material to make the manufacture pay. So, for example, if our Mint charged 5 per cent. on the gold brought to it, any one who brought enough gold to make 100 sovereigns would only get 95 sovereigns in exchange for it, and in consequence no one would bring gold to the Mint so long as he could get more than 95 sovereigns—£95—for that amount of gold elsewhere. Whenever it was worth while to get gold minted it would be because the market price of gold was only £95 for the quantity out of which 100 sovereigns were made, and when the price of gold is at that level it means that ninety-five sovereigns—£95—will buy enough gold to make 100 sovereigns, so that the sovereign is worth $\frac{100}{95}$ of the gold of which it is made, or to put it in other words, that the coin is worth one-nineteenth more than the gold in it.

It cannot be more than this for any appreciable time, because coinage is "free," i.e. any one can bring as much gold as he pleases to the Mint and have it coined on paying the charge. So if the demand for coin were to increase rapidly, it would be met by a greater supply. On the other hand, the value of the sovereign might easily fall below a hundred ninety-fifths of the gold in it for a period of some duration, owing to decrease of demand: new coinage would not take place in this period. The value could not in

any case fall below that of the gold in the sovereign because of the possibility of turning the sovereign into uncoined gold by the simple process of melting. So the effect of seignorage is to keep the value of the coin always between the metallic value and that value *plus* the seignorage, and in progressive and even in stationary periods to keep it at the higher end of this limited space.

We must be careful not to be confused by changes in the mere form of the transaction. For a person to take raw material to a manufacturer to be made up for himself, and remunerate the manufacturer either by letting him keep a part of the product or by paying him money for the service rendered, was once a common method, but is now obsolete, surviving even at Government mints, if at all, only in name. Gold producers do not now bring or send their gold to a mint and receive back the same gold less seignorage and other charges, if any, but sell their gold to the mint (or a bank which acts as its agent) for money paid to them, and they regard themselves, like other producers, as receiving a price for their product. So there are "mint prices," prices given by the mint for gold, and when a seignorage is exacted, it appears in the form of a difference between the mint price of an ounce of gold and the amount of coin made out of an ounce. When, for example the mint price of gold is £3 17s. 10½*d.* an ounce of standard gold, that is £3·894, and an ounce of standard gold is made into £3·894 sovereigns, this shows an absence of seignorage: a seignorage would be introduced by the interposition of a gap between the mint price and the amount of coin made out of the ounce, e.g. a lowering of the mint price to £3·75 per oz., while the ounce continued to be made into 3·894 sovereigns would yield the Government a gross seignorage of £0·144, or 2s. 10½*d.* per oz.

On the value, measured in commodities in general, of the metal of which the coin is made, seignorage has no influence except in so far as it tends to reduce the demand for that metal by diminishing the quantity taken up by the currency, and this may be taken as a practically negligible effect when seignorage in only a single country is being considered. We need, therefore, scarcely encumber the exposition by making an allowance for the tendency of seignorage to depress the value of bullion: the matter is too trifling to be worth bringing into account.

As seignorage is seldom or never large, and as for the most part it simply raises the value of the coin once for all and then allows it to fluctuate very nearly with, though a little above, the value of the bullion contents of the coin, we may regard it as of little practical importance, but it may be of considerable use in enabling us to understand the effects of limitation in general.

When the fact is once grasped that it is limitation of supply, coupled of course with sufficiency of demand, which enables a seignorage to keep the value of the coin ordinarily above the value of the metal of which it is composed by the amount of the seignorage, the way is opened for comprehension of the fact that by a "closing of the mint to free coinage," and coining only suitable amounts, coins made of one metal may be made to circulate at some value fixed by reference to coins made of another metal.

This was first discovered in consequence of the very reasonable desire of every one to keep coins made of two different metals, gold and silver, both in circulation at the same time, gold being convenient for larger and silver for smaller payments, though not for the smallest of all. So long as they attempted to maintain free coinage of both metals, governments

were in perpetual difficulties arising from the fact that the ratios which each of them prescribed between their gold coins and their silver coins always sooner or later led to one or the other metal being not supplied in sufficient quantities for the requirements of a convenient currency.

With regard to copper coins the principle was acted on long before it was recognized or understood, and long before it was acted on with regard to silver. Money of small denomination was demanded, Government did not supply the need, and, as usual, private enterprise stepped in. The story in this country is roughly that tradesmen took to issuing metal "tokens" for small fractions of the unit of account such as pennies or farthings when the Government did not coin them, these tokens entitling the holder to goods of that value at the shop of the tradesman. They were not always retained for further purchases by the customer who received them in change, but got into circulation, i.e. they were generally acceptable, so that things could be bought with them from other people as well as from the tradesman who issued them, although the metal of which they were made was not and did not profess to be of appreciable value. Abuses of course soon made their appearance, and the business of providing these "token coins" was taken over by the Government. They were manufactured by or for the Government and given in exchange for larger money paid by people who wanted the small for purposes of their business. There was no "free" coinage. The metallic value of the coins was considerably less than that at which they circulated without the least difficulty, but some importance was attached to it, and no one seems to have understood that their value was given to them by the demand coupled with the limitation of supply enforced by their being sold to the public at the

rate of 960 farthings, 480 halfpence and 240 pennies to the pound sterling.

Even when the whole coinage was remodelled in 1816 no one seems to have thought of applying the same simple plan to the silver coinage, but it was actually applied in consequence of what seems to have been merely a happy accident. It was intended to continue "free" coinage of silver, but to make it, as Adam Smith had recommended forty years before, subject to a seignorage of 4s. per lb. troy weight (the Mint price being fixed at 62s. for the lb., which was coined into 66s.). But for some reason or other free coinage was only to begin after the issue of a proclamation about it, and the issue of this proclamation was delayed. Meantime the Mint bought silver at the market price, coined it, and sold the coins to those who wanted them at the rates of 8 half-crowns, 20 shillings and so on to the pound. This method being found profitable to the Mint and satisfactory to every one else, no one troubled about the proclamation, and it was never issued. It was only in 1870 that the provision for free coinage after the issue of the proclamation was struck out of the Statute-book, and even then the importance of the change made by the disappearance of free coinage of silver does not seem to have been recognized. The usual belief seems to have been the very extraordinary one that the silver coins were kept in their proper relation to the sovereign by not being legal tender for more than £2, as if a disability of this kind could possibly have either kept the value of the coin above that of the metal of which it was composed or have kept it in circulation if the value of the metal was greater than the value at which the coin would circulate. The fact that silver coins are legal tender up to and not beyond £2 and that bronze coins are legal tender up to and not beyond £0.05 (a shilling)

is of no importance whatever except in so far as it prevents a spiteful debtor from playing an occasional "nasty trick" on his creditor by paying him a large sum in these coins.¹ If they had not been legal tender at all under the law of 1816, they would have been generally accepted just as much as they are. If they had been legal tender for any amount, they would not have been tendered for large amounts any more than they are: in fact silver is seldom tendered for amounts above 9s. 11½d., which is less than a quarter of the legal maximum, and bronze is seldom tendered for sums above 5½d., which is less than half the legal maximum.

The law of legal tender has nothing to do with the value of the silver and the bronze coins. They are maintained at the fixed ratios, 20 shillings, and so on, to the pound sterling simply by sufficiency of demand coupled with adequate limitation of supply. When there is a demand for a thing it will have a value until the supply becomes great enough to reduce its marginal utility to nil: what value it will have depends, given the particular elasticity of the demand, upon the magnitude of the supply. The value of the silver and bronze coins of the United Kingdom is kept at the intended ratio because the Government, exercising an absolute monopoly of the manufacture of the only known convenient media of exchange for small transactions, metallic coins, supplies them only in the limited quantity appropriate to that ratio.

To make this quite clear we need only consider what would have been the result of insufficient demand or excessive supply.

¹ But John Leech's bus conductor who gave the tiresome old lady 4s. 10d. in coppers was quite within his rights. She should have tendered 2d., not asked for change for a five-shilling piece.

First, what would have happened if at some period the demand had fallen off, and that faster than the coin is consumed by abrasion and loss? Suppose a plague which carried off half the population, or an ingenious improvement which led to the substitution of some system of making small payments without the use of coin. In that case some persons or institutions, probably the banks, would have found themselves in possession of inconvenient amounts of silver and bronze coins—more than they could pay out without annoying the persons with whom they did business. The probability is that they would insist on the Mint taking back some of the coins at the ratio at which they were issued, but if the Government obdurately refused, and the falling off in demand was large and expected to continue, the coins would go to a discount, i.e. for the sake of exchanging them for more convenient money people would be willing to submit to some loss on their nominal value, and they would be exchanged for the more convenient gold coin or bank-notes at something below the official ratio.

Secondly, suppose excessive supply. In order to placate some school of currency theorists, or in order simply to make more profit, the Government is not content with issuing silver or bronze coins when they are asked for by persons ready to pay the price, but proceeds to put much larger quantities out by the device of ordering Government wages and postal money-orders in sums up to £2 to be paid entirely in silver.

The same results will follow as in case of a falling off of demand—there will be too much silver coin somewhere, and if the excess cannot be returned to the Mint at par the coin will eventually go to a discount. Additions to the supply made by illicit coinage will of course have exactly the same effects

as additions made by the Mint, and where Government was very weak or inefficient, they might be on a sufficiently large scale to replace the usual Government supply and exceed the appropriate amount, with the same result of bringing down the value of the coin, and this would go on until the value became so low that it would not pay the illicit manufacturers to produce enough to bring it still lower. The actual danger from illicit coinage does not appear to be great, owing to the fact that coinage on a large scale cannot be concealed, and concealed coinage on a small scale is not a very remunerative manufacture, even when the cost of the raw material is very small compared with that of the finished article.

In fact the system has been perfectly successful, not only in this country, but wherever it has been tried. Some countries have made a slight improvement on the English system by making the silver coin redeemable or "convertible" at their mints or Government banks. This means that the Government is not only ready to sell the coin at the prescribed ratio, but is also ready to buy it back at that ratio. Thus the possibility of a falling off of demand is provided for, and no doubt that is desirable. In this country there is little doubt that in case of a considerable falling off of demand the Government would be compelled to take back enough of the coin to keep up its value, and the obligation might just as well be acknowledged at once.

If the value of the metallic contents of a coin of this kind is not originally very much below the value fixed for the coin, the particular arrangement made will perish in the event of a considerable rise in the market price of the metal of which the coin is made. This will happen because the metallic contents of the coin will then be worth more than the value at which the coin is rated and circulates, and the cheapest

source of supply to any one who wants the metal for industrial purposes will be the coinage. Thus if silver went up to more than 66*d.* the oz. troy, instead of buying silver in the bullion market manufacturers of silver goods in this country and elsewhere would as far as possible get what they wanted by melting English silver coins, which as coins are only worth 66*d.* the oz. troy, and which they could therefore get at that price in small quantities, and at a very little more than that price in large quantities. The silver coinage would disappear, and every one would be inconvenienced till some substitute equally good was discovered: in some countries this inconvenience has actually occurred. The way to prevent it is for the Government to take time by the forelock and issue a lower weighted (or more alloyed) silver coinage before the depletion of the coinage begins, and to draw in as fast as possible the old heavier (or purer) coin. If this is done sufficiently promptly a balance of silver will remain in the hands of the Government and no one will be hurt.¹

There is no necessity for a whole series of coins of this character to contain the same proportion of metal to their coin value, and it is often convenient that they should not. This was recognized when to make them more portable our pennies were made less than double the weight of the half-pennies, and it might well be recognized still further by making the half-crowns and florins smaller in proportion to the sixpences. The convenience of this is suggested by the fact that the threepenny piece appears to be going out of circulation because it is too small to be conveniently handled, and the crown because it is too bulky.

¹ After this paragraph was written the price of silver rose greatly, and in the session of 1920 parliament authorised the issue of silver coins alloyed fifty per cent.

Nor is there any reason why such coins should not, when convenience suggests it, be made of the same metal as the standard coin. When Lord Randolph Churchill was Chancellor of the Exchequer it was proposed to reduce the metallic contents of the half-sovereign, while keeping it in circulation at the rate of two to the pound. The coin is subject to a large amount of abrasion, and it was thought it might as well contribute towards its own maintenance, so to speak, by being issued in the first place at a profit.

Towards the end of the nineteenth century this principle that sufficiency of demand and properly limited supply will keep the value of a coin above that of its metallic contents was applied to standard coin in several parts of the world, of which India was the most important.

The Indian Government was troubled in various ways, unnecessary to describe, by the change in the ratio of value between gold and silver. The standard was silver, and a silver coin, the rupee, was the unit of account. The ratio of value which had prevailed for a long time between the value of gold and silver in the markets of the world made the value of the rupee to the gold sovereign or pound sterling about 10 to 1, so that in ordinary language in England the rupee was said to be about 2s., while in India the pound was said to be 10 rupees. But the ratio was rapidly changing, so that it was said in England that the rupee was falling, and in India that the pound was rising. The Indian Government wished to stop this movement, and also to link up India with the Western world, in which the gold standard was predominant. After some resistance on the part of the British Government, it was allowed to adopt a scheme under which the supply of rupees to the currency was to be so restricted as to keep their value up to the ratio of 15 to the £1. The possi-

bility of the ratio between silver and gold varying again so as to make the metallic contents of the rupee equal to more than one-fifteenth of £1 was recognized, but was not regarded as an objection, inasmuch as one of the subjects of the change was to keep the rupee higher than it otherwise would be. If it went higher than 15 to the £1 the new system would simply disappear because no longer necessary. There would be no melting down of the silver coinage, as there would in similar circumstances in England, because there would be no gold currency in the way to prevent the coined rupee rising in value along with silver.

Some of the older economists and financiers of the time said the scheme could not possibly work, and were greatly pleased when their prophecies seemed to be justified by the failure of the rupee to stand immediately at the intended rate. But this was only the natural consequence of insufficiency of demand: the demand was not at first big enough to make the mere stoppage of new coinage bring the value up to the ratio. Soon, however, demand increased, and gradually increased enough to overcome the counter-acting effect of some new supply in the shape of rupees which were outside India and now came back because they were worth more there than outside: the rupee rose in relation to gold so that merchants in India and England were able to do business approximately at the ratio of 15 rupees to the £1, and the Indian Government could pay approximately £1 due from it with 15 rupees. And little difficulty was found in maintaining that ratio.

The rupee consequently came to be one-fifteenth of a pound just for the same reason as the English shilling is one-twentieth of a pound—there was a sufficient demand for it and not too much supply. The difference was that in India there was no gold

sovereign in circulation, so that the ratio fixed for the rupee was not with a domestic coin but with one circulating in another country, and could therefore only be seen at work in the business transactions between the two countries, commonly called the exchanges. Hence the name "gold-exchange standard" applied to the monetary system of India and other countries with silver currencies kept to the standard of gold. But we must beware of imagining any natural pre-eminence of gold over silver. The same system might be applied with equal ease to keeping the value of a gold coin at some fixed ratio with the value of the silver coin of another country or indeed with the value of any other clearly cognizable commodity or even with a collection of commodities such as appears in the formation of an index number of prices. This was perceived by the Swedish Government during the War. Being desirous of exempting Sweden from further rise of prices, it took some steps to hinder the further entry of gold into the currency and therefore to hold up the value of the gold coin in which prices were reckoned above the value of unregulated gold in the world at large. No definite standard was adopted, but the intention obviously was to keep the value of money from falling further, or at any rate from falling so much in relation to commodities in general.

The conclusion of this section is that given demand for a coin, adequate restriction of supply will keep its value up to any required level above that of its metallic contents. It is not, of course, a useful corollary of this to say that adequate *additions* to supply would keep its value down to any required level *below* that of its metallic contents: that is perfectly true, but adequate additions cannot be made, because a coin worth less as a coin than the bullion of which it is made will always, law or no law,

ultimately be melted to be turned into something else. Consequently where the unit of account is a coin regulated in supply, the value of money is never lower, may by chance occasionally be equal to, and is ordinarily higher than it would be under free and gratuitous coinage. How much higher depends on the particular standard of restriction adopted: it may be higher by a given percentage; it may be higher by the amount necessary to make it conform with the variations of some other money, as the Indian rupee was kept higher by the amount necessary to make it one-fifteenth of £1; or it may be kept as much higher as the restricting authority judges desirable by some rough estimate, or as much higher as will preserve stability of value as indicated by some index number of prices.

It is no objection to this conclusion to say that the value of a coin restricted in supply may be reduced by the competition of paper currency. That is merely one of the numerous things which tend to reduce the demand for the coin, and may make the demand insufficient to keep its value over that of its bullion contents. The case will come under notice again in the course of the argument of the next section.

§ 5. *The value of money or general level of prices where the unit of account is a bank-note or currency note.*

In modern times metal discs stamped with certain designs and lettering are not the only things with which people buy and for which they sell. They also use scraps of paper on which are figures or words (or both for safety) indicating amounts of the unit of account, for example "£1," "Ten shillings" (which is half a pound sterling). There is usually other reading matter on the scraps, but it is not commonly read or regarded as of any more importance than (what is to most people quite unintelligible) the

"DEI GRA: BRITT: OMN: REX FID: DEF: IND: IMP:" round the King's head on our coins. Provided the paper will be taken for the amount printed conspicuously on its face, wherever we are likely to offer it, we do not trouble ourselves whether, like a bank-note, it carries the promise of some person or institution to pay that sum at a particular place on demand (*scil.* in business hours), or, like a currency note, says that it is legal tender (i.e. that we can compel any one to whom we owe the sum to choose between accepting the paper in discharge of the debt and going without payment altogether).

How such "notes" first got into circulation along with coins in various countries and at different times is an interesting historical question well worth studying. But the answer is lengthy and not material to our present purpose. It will suffice to suggest a few of the reasons why a demand arose for such a currency. Sometimes the demand arose from the bad state of the coinage. When base coin was common and originally good coins were liable to be much clipped without immediately being rejected by the next person to whom they were offered, and when all sorts of good and bad foreign coins found their way into each country, the inexpert person never knew what he would actually get if he accepted say £50 or £100 tendered to him by a buyer or a debtor, and even an expert would take some time examining, weighing, and perhaps assaying some of the coins. What more natural in such circumstances than that a person, having once got a quantity of coin, should hand it over to some expert man or institution with a reputation for honesty to be examined and certified as amounting to a certain sum? And then what more natural than that having got the certificate he should use it instead of the coin itself to make his next big payment with? Instead of offering a

doubtful heap of metal which may or may not amount to what he says it does, he is able to offer a certificate or note which will entitle the holder who accepts it to something much more definite : all that is required is that the certificate or note should be made out in such a form that handing it over from one person to another—delivery—will transfer the ownership of the certified quantity of money, and the certificate is then an actually better medium of exchange than the coin itself, and there is very naturally a demand for it, it becomes generally acceptable, it is " paper currency."

But even if the coinage is above reproach, a demand for paper currency can scarcely fail to arise. To keep a large amount of money in coin is to keep a bulky article which offers peculiar attraction to thieves on account of its retaining its value when it has lost its form, so that it cannot be identified. It is natural that any man who has no convenient strong-room will wish to deposit any considerable sum in some safe place and take a receipt for it ; as one good coin is as good as another, he will not ask the person with whom he deposits the coin to promise to give him back the actual coins deposited—a promise to pay " the sum " deposited will suffice. Provided the written promise is in such a form that handing it over will transfer the owner's claim on the person who has the coin to the new holder, it is evident that when the owner wants to make a large payment he will do well to hand over the promise instead of fetching out the coin from deposit, and the person whom he is paying will do well to accept it. It will clearly be convenient in view of such possibilities that the person with whom the coin is deposited should make out his promises to pay in round sums—£20, £100, and so on, so that several may be pieced together to make up any particular payment. When this is

done, the promises or "notes" pass from hand to hand easily, become generally acceptable, are "paper currency." There is a demand for them because they are more convenient for keeping and paying large sums than gold, and still more than silver. They can be more easily stored and carried: each one is identifiable by its date and number and so less attractive to thieves than coin. True, they are more easily destroyed by fire, but the honest issuer does not take advantage of that accident.

The person who "issues" the notes makes his profit by lending out most of the coin deposited, knowing full well that it is vastly improbable that many of the note-holders will all at once want to exchange this new currency for the old heavy bulky and inconvenient coins. Bold competitors will start in the business: on the strength of a little capital, or the pretence of a capital, they will issue notes by way of loan to borrowers without waiting for deposits, and the demand is soon fully supplied.

In some such ways redeemable notes get into circulation.

At this stage it is natural to say that the notes owe the fact that they circulate to the fact that the issuers must redeem them if required. But something more than redeemability is required to make them circulate; when a note is redeemed it is at the end of its circulation, and what we want to know is rather why notes are not presented for redemption at once instead of circulating. They are kept circulating not because they are redeemable, but because other people than the issuer will take them. That is, because they are convenient to keep in hand in order to make future payments with; there is, in fact, a demand for this kind of medium of exchange, so that people like to have it in preference to an equal amount of coin.

That redeemability, or "convertibility" as it is

commonly called, is not essential in order to make notes circulate is shown by the fact that notes which the issuers will not in fact redeem and which are therefore called "inconvertible" notes will circulate, and an inquiry for the cause of their circulation shows it to be a demand, although often what is called "an artificially created demand," for notes.

In order to be able to put convertible notes into circulation an individual, or company of individuals, must have a considerable reputation for solvency. Notes not payable on demand but only payable at some future date without interest will not be accepted even from a solvent person or institution at their face value, and if issued at a discount so that they bring interest, they will not pass from hand to hand like coin and ordinary notes, because the discount at which they must be taken is always diminishing. Notes not bearing interest and not payable either on demand or at any future time, if offered by an individual or company of the most undoubted solvency as something new and fresh, would only be laughed at.

But when notes have got into circulation as convertible notes and people have become thoroughly accustomed to accept them and to find them acceptable by others, their convertibility may sometimes be taken away without destroying this general acceptability of the notes and the consequent demand for them. Of course, if the public receive a rude shock by being told that such and such a bank is insolvent and its assets will not be sufficient to pay its notes in full, the notes will cease to be acceptable. But some less disquieting explanation may be given for "the suspension" of convertibility. If the Bank of England in 1797 had taken pains to make it known all over the country that it could not continue to pay gold coin for its notes on account of the insufficiency

of its resources, and that it did not think it could ever resume the practice, the notes would have ceased to be generally acceptable and consequently ceased to circulate and lost their value at one blow. But instead of doing that the Bank directors went to the Government and secured the passing of a law restraining them from redeeming their notes. The public thought little of this : the notes looked just the same as before, and continued just as convenient, and every one except Lord King long afterwards went on taking them just as before. The demand for them was unaffected, and the supply for the moment continued just, or nearly, as much limited as before.

In some such way an already existing demand for a convertible note can be maintained for it when well-informed people, and even much larger numbers, know that its convertibility has disappeared. Demand and limitation of supply account for an obsolete blue Mauritius 2*d.* stamp selling for a thousand pounds : why should they not also account for a convertible note retaining its old value even when it is no longer convertible ? The Government of Mauritius certainly does not promise to redeem the stamp at that or any other value and never undertook to accept it as payment for postage for more than 2*d.*, but a dealer will give £1,000 for it because he knows he can pass it on for more. He will not, it is true, give £1,000 for it if he can only sell it for that sum, while any one selling five pounds' worth of goods in 1797 would take a £5 Bank of England note, although he could not expect to get more than £5 for it, but the difference is only the result of the demand for the five pound note being a demand for currency, whereas the demand for the stamp is a demand for the satisfaction of collectomania.

It is perhaps impossible for private individuals

separately or in association to make a perfectly new issue of inconvertible notes without the assistance of Government, but such an issue can be made by or with the active help of even a rather weak Government. This is possible partly because the public has been accustomed to regard the note currency as more or less arranged for by the Government, and therefore to look upon anything which is allowed to circulate as being "good"—it trusts the Government to do with notes what it does with coin, to see that nothing "bad" is in circulation—and partly because the Government assumes the power of interpreting the name of the unit of account. This power is commonly called the power of changing the law of legal tender. At one time, for example, gold coin may be the only legal tender; then a contract to pay "one hundred pounds" can only be fulfilled (unless the other party agrees) by the tender of 100 sovereigns or 200 half-sovereigns. Government may then enact that notes issued by some bank or by its own Treasury shall be legal tender, and forthwith every one who has contracted to pay "pounds" can pay in these notes. It is true that if the issue is very unpopular, the mere making of it legal tender will not bring it into general circulation, because people will find means for refusing to deal with those who insist on paying in it, but the law certainly does help. The power of the holder of a note to make his creditor accept it in payment is not exactly the same thing as the note being generally acceptable, but it goes far to create general acceptability, since a person's reluctance to accept is largely overcome by the feeling that he can "pass the thing on." Governments have often been helped in getting their notes into circulation by the fact that they have forbidden private persons to issue convertible notes for small denominations which would have been

readily accepted if allowed. When desirous of issuing inconvertible notes themselves, they pay no attention to the arguments against small notes and thus their issue satisfies a previously existing demand.

After this preface about the nature and origin of "paper currency" we come to the question, what effect it has on the value of the unit of account, or, in other words, on general prices.

We must be careful not to fall into the mistake of imagining that because a note-issue circulates at a par with coin, as for example a five-pound Bank of England note before the war would readily exchange for five sovereigns, therefore everything in regard to the value of money and prices is just as it would be in the absence of the issue. The extent to which notes take the place of coin is commonly very much overrated. Writers have sometimes supposed that every issue displaced an amount of coin equal to its own total amount less any reserve kept against it by the issuers. This is very far from being true, since the superior convenience of notes for the higher denominations of currency—that is for sums above five shillings or perhaps something rather less—leads to a much larger quantity of currency (coin plus notes) being kept on men's persons than if there are no notes. Nevertheless it is true that all or most note-issues do to some extent economize or "displace" coin, and thereby reduce the demand for it. We may certainly take it that the general tendency of note-issues, especially when the notes are for small sums and therefore compete with coin much more than with other machinery for paying money, is to reduce the demand for coin, though they need not displace coin to their full amount.

Where the coin is restricted and has a much higher value than its metallic contents, a note-issue, although it retains its par value in coin, may thus have a

considerable influence upon the value of money, reckoned as it is in this restricted coin. For example, if at the time the Indian Government was bringing the rupee up to Rs. 4*½*. by restriction of coinage, either it or banks had been successful in issuing and keeping outstanding a large issue of notes (convertible or inconvertible) of small denomination, the rise of the rupee would have been greatly obstructed in consequence of the reduction in the demand for silver rupees. When the scheme had attained success such an issue might obviously have sent the rupee down again to the value of its metallic contents.

But that is not all. An issue, convertible or inconvertible, although circulating at par with the coin tends to reduce the value of the coin and raise prices even when that coin is like the English sovereign before the War, always on a level with its metallic contents, or like the Indian rupee in the case just imagined has already been driven down to a level with its metallic contents. It does so even when the coin may be melted down and exported because it tends to reduce the value of its metallic contents: the demand for coinage being reduced, the demand for and therefore the value of uncoined bullion will be reduced, so that the meltability of the coin will not altogether save it from being pulled down by the diminution of demand for it caused by the competition of the notes. This, however, though important in any large view of the subject, is negligible when the effect of a note issue confined to any one country is concerned: the bullion of which the value is depressed is a mundane commodity not likely to be very appreciably affected by any probable single change in the demand for the coin of any one country.

At this point the power of a convertible issue to depress the value of money and raise prices stops,

provided the coin may be melted and it or bullion may be exported. Money is still reckoned in a coin which is convertible into bullion, and therefore cannot go below its bullion value. The conditions of the supply of the convertible notes prevent the value of any of them from going below the value of the coin, and the coin cannot go below the value of its contents because the supply of it would then be reduced by melting.

That the supply of the convertible notes of any denomination cannot be so large as to cause a gap to appear between their value and that of the coin they promise to pay is so obvious as to scarcely need explanation. If there was such a gap any one who had one of the notes would run to the issuers to get it redeemed: the note by hypothesis is circulating at par: a pound note pays a pound debt and buys an article priced at a pound, and "the change" for it is twenty shillings, which all the arithmetic books agree in making a pound. Any gap between it and sovereigns would therefore appear in the form of a sovereign being worth more than a pound, and if a sovereign could be openly sold for more than a pound, notes would be rushed in for redemption by holders anxious to make a profit, until parity was reached again, or all the notes paid off, or the issuers bankrupt and the notes out of circulation. Convertible notes thus cannot be kept outstanding in numbers which would lead to their being less in value than the coin they promise to pay, and *a fortiori* they cannot be issued in such numbers: it follows that no more can be put into circulation than will be compatible with their keeping their par value. The bankers may try to get more into circulation by paying all their own household bills with them, but if there are enough out already, this will only end in the tradesmen presenting the notes for redemption. It may occur to some banker before breakfast, when the intellect is weak,

that it would be a fine thing to encourage people to take his notes by offering them at a small discount, but after breakfast he will remember that this would cause an enormous demand for his notes, but that they would all be immediately presented for redemption so that more might be asked for and he would be ruined by the discount. There is, in fact, no possibility of the convertible note being below the value of the coin which it promises, and therefore it cannot drag the value of money—the unit of account of money—below the value of the bullion contents of the coin, when that coin itself is protected by free convertibility into bullion from being so dragged down. If the freedom of owners to do what they liked with sovereigns which prevailed in England before the War had been maintained, the introduction of an issue of convertible one-pound notes (formerly forbidden) with only an ordinary reserve against them, would doubtless have tended to drag down the value of English money, i.e. of £1 and all multiples and fractions of £1, and therefore to raise prices. But it would only have brought the value of the pound down along with gold throughout the world and only have raised English prices along with prices in the world at large. And a depression thus caused, though widespread, would be of trifling depth.

An inconvertible issue has more power than a convertible of depressing the value of the unit of account and raising prices within the country where that unit is employed.

Inconvertible notes may circulate at the full value of the bullion contents of the coin indicated on their face and even at the full value of the coin when it is restricted so as to be worth more than its bullion contents. The testimony of history is conclusive on this, and the fact is easily explained by the ordinary principle of demand coupled with adequate limitation

of supply. If the Government or other issuers are able to prevent the manufacture, or forgery as they would call it, of notes by other persons, and if they themselves do not give out or keep out more notes of each denomination than would have been issued and kept out if the notes had been convertible, the issue cannot possibly have any other value than that which a convertible issue would have had. Just as the convertible issue is kept up in value by the demand and adequate limitation of supply, so may the inconvertible be kept up.

But though they need not be any greater in total than convertible notes, inconvertible notes may be so, and even when the coin is convertible into free bullion, they can be issued in sufficient amount to press the value of money down below that of the bullion contents of the coin indicated by the unit of account. They can, for example, be issued in sufficient quantities to bring the value of the English pound below that of the gold contents of the sovereign, the American dollar below that of the gold contents of an American gold dollar, or the Indian rupee below that of the contents of the Indian silver rupee. That this kind of thing has happened in past history is generally admitted, but when it happens, it is generally unperceived by the mass of the people and strenuously denied by many of those who ought to know. They are so accustomed to expect changes of the value of particular articles to be reflected in their money prices that they cannot understand general prices being higher because the measure of price has been changed.

Yet the process is really simple enough. The whole of some issues of notes and a part of most may be absorbed in increasing the stocks of currency held by persons and institutions. The British Government might have stored in vaults a sovereign for every

pound-note which it issued, or private individuals might have been so pleased with the picture of the Houses of Parliament on the back of the notes, or so patriotic, that every pound-note issued was promptly framed and hung on front parlour walls. Then no additional buying of things would have taken place or been attempted in consequence of the issue. In the first of these two examples neither the British Government nor the people would have had a penny more to spend than before : in the second the Government certainly would have more to spend, but the people would have that much less, and the two together would have no more to spend than before. But this is far from usual. A great part of almost every issue and sometimes the whole of it goes to increase the aggregate amount of money which people and Government together can and do spend on things and services. The notes are exchanged for something : the issuers buy things and services with them or lend or give them to others who do. They may, if a Government, go through the farce of giving them in exchange for other money and then spending that other money instead of spending them directly, but however the process may be disguised, it results in more money to spend and more money spent. The perfectly natural consequence is a rise of prices. Where the notes are convertible into coin and the coin is convertible into free bullion, this rise of prices will not include a rise in the price of bullion, since the value of the coin and bullion must stand on a level. The convertible notes cannot be issued in large enough quantities to cause a gap to appear between their value and that of the bullion to which, through the coin, they are nominally equal. For example, given convertibility of coin into free bullion, it would be impossible to issue as many convertible notes as would bring up the amount of

spendable money far enough to raise the price of fine gold from the par price of £4.25 to £5.75, because long before that happened, everyone who had notes would be running to the issuers to get sovereigns with them: the sovereigns thus obtained could be turned into bullion, and so give the holder a larger amount to spend than if he spent his note. Inconvertible notes, not being subject to this "automatic check," may be issued in greater and ever greater quantities, so that they can cause a gap to appear between their value and that of the bullion to which, through the coin, they are nominally equal.

At first sight it is probable that most of us would expect the gap to appear in the form of a note passing for less than its nominal value, say a pound-note passing for £0.8 or 16s. and a dollar-note for \$0.80. This does not happen, and nothing really suggests that it should happen. The pound-note was, and continues to ordinary apprehension to remain, "a pound": it will buy a thing priced in a shop-window at "£1," and it will pay a debt of £1. Failing the note going to a discount, we should perhaps expect the sovereign to "go to a premium," and begin to circulate at some value exceeding £1, say £1.25 or £1 5s. This might happen if people really preferred sovereigns to notes, and if they could shift the premium as fast as changes in the price of bullion took place, but in fact that could not be done: the currency value lags behind the bullion value, and consequently the coins are not kept in circulation at higher prices, but are "driven out," as it is usually said, by the notes. It is not really a case of their being driven out, but of their being attracted out into the bullion or export market by the premium obtainable there and not obtainable so long as they are used as currency. Jewellers and bullion dealers will give more for them in "money," that is, in

notes, than they will fetch as currency, so that they "disappear," the heaviest going first, and the others following as the price of bullion rises.

Thus the increase of inconvertible notes when carried, as it can be, far enough, causes a rise of the price of bullion.

It has not till lately been well understood, even by experts, that when the coin is not convertible into free bullion, convertible notes may be issued in quantities just as great as inconvertible notes and with exactly the same result. Ricardo came near hitting on the fact. He noticed that during the suspension of cash payments by the Bank of England it was a puzzle to many people how the inconvertible note could be of less value than the gold it should (through the gold coin) represent, although as a matter of fact, when they had a gold coin they found it would only circulate at the same rate as prevailed before the suspension of convertibility.¹ He explained the matter quite correctly as being the result of the legislation which prevented law-abiding people from doing what they liked with the coin: there were penalties against melting and exportation which kept the gold coins, so long as they were in the hands of law-abiding people, from being used for any purpose except currency, while *for that particular purpose*, as has just been shown, the coin cannot in practice be used at a value higher than that of the unit of account supposed to represent it. But Ricardo and subsequent writers regarded the point as of little importance, because it did not occur to them that a well-enforced denial of freedom to deal with coin would be sufficient by itself to allow over-issue to take place without the abolition of the convertibility of notes into coin. Recent experience has shown this to be

¹ "The High Price of Bullion a proof of the Depreciation of Bank Notes" in Ricardo's *Works*, p. 280.

perfectly possible. The British Treasury's one-pound and ten-shilling currency notes have been convertible at the Bank of England, and have as a matter of fact been redeemed there for holders who have sometimes at least been required to write their names on the back of them and asked what they wanted the gold coin for. But at the same time exportation has been made impossible, and the using of the coin for any purpose except currency was forbidden, so that the person who goes to the Bank and receives a sovereign might just as well be given a round disc of cardboard with "legal tender for £1" on one side and Sir John Bradbury's head on the other, or better still, he might stay at home and spend his £1 currency note like other people. The currency note can still be converted into a fullweight coin and is therefore described as convertible, but it is no longer convertible into free gold of the weight of the sovereign, because the sovereign may not be converted into free gold.

Thus convertibility of the note into coin is deprived of all its virtue when laws against melting and exportation of the coin are present and effective. Convertible notes can then be issued without check just like inconvertible notes, and consequently can drag down the value of money below that of the bullion contents of the coin and give rise to the same phenomenon, a rise of general prices including the price of bullion.

When the issuers of inconvertible notes or notes which are only convertible into inconvertible coin issue them so freely that they will exchange for less than the par amount of bullion, when, that is, in other words, the price of bullion rises above the par price, so that the note will no longer buy raw material for the coin which the note represents, the unit of account ceases to be a coin or quantity of metal and becomes a printed symbol on a piece of paper the supply of which depends on the moderation of the

issuers. The pound sterling, for example, in multiples and fractions of which all prices in this country are reckoned, ceases to be 113 grains of fine gold and becomes simply "£1" (or one-fifth of £5 and so on), when printed on a genuine note, and the amount of these symbols printed is determined by what the Treasury thinks fit.

When the value of money is thus surrendered to the discretion of Government issuers, it usually goes down and the general level of prices goes up rapidly. The surrender usually takes place at a time of financial difficulty, so that the very object of destroying convertibility is to remove the necessity the Government or others are under of fulfilling their promises to pay something equivalent to certain definite quantities of bullion. In the present state of economic instruction in all countries there is no Government and no people which is likely to understand what is happening. The issuers find that further issues themselves directly bring in money easily and apparently cheaply, and very likely at first greatly assist borrowing in other ways by the feeling of ease and prosperity which "plenty of money" at first creates. Many other persons profit enormously by the rise in the prices of the things they sell. So there is a strong bias in influential quarters in favour of more and more notes, which leads to many arguments in their favour.

1. At first when the rise of prices is not yet very perceptible, it is usual to deny that general prices have risen. This contention soon disappears, as the issue goes on and prices rise further.

2. Next comes the contention that though prices have risen, the currency is quite sound because it is still on a level with bullion—the price of bullion has not risen. This is untrue, but usually difficult to disprove, because the time is probably one of con-

siderable confusion: transport may be interrupted by warlike operations so that the price at which gold may be bought from abroad is difficult to ascertain, and the issuers may have taken the precaution of forbidding free transactions in bullion at home. But soon this does not matter, because, as the issue goes on, the rise in the price of bullion becomes too great to be denied.

3. Sometimes it is contended that a rise in the price of bullion is due not to a depreciation of the money but to an appreciation of bullion. This covers two different contentions between which confusion is frequent:

(a) It may mean simply that bullion is higher in value relatively to commodities in general, while money has preserved its old relation to them. As the issue gets larger and larger, this too has to fade into the limbo of discarded arguments. But supposing it were true, it would only be by accidental coincidence, unless the issue of notes was managed with the distinct aim of securing a currency which would always keep the same level of value and preserve a complete stability of general prices. Regulation with this end in view is quite conceivable, and has often been advocated by high authority. It must be noticed, however, that those who put forward this defence of an actual issue are often persons who would be the loudest in their protests against the desirability of the adoption of any scheme for such regulation.

(b) The other meaning of the contention that it is not money which has depreciated but bullion which has appreciated, is that the gap between the value of bullion and that of the unit of account and also the general rise of prices are to be ascribed to something that has happened to bullion and ordinary commodities, and not to what has happened to money, and therefore the unit of account has not fallen in value

although it will buy less than before. The answer to this is that it implies that value can and must properly be measured in labour cost of production instead of in commodities and services ; the idea is that it has become more difficult to get gold and other commodities, and therefore they are more valuable, and the higher price in the unit of account merely gives expression to this, and therefore has not been produced by the issue. But we do not measure, and we do not want to measure, value in labour-cost of production ; if we did so measure it, everything in savage or primitive times when the productiveness of industry is very low would be of enormous value. So this answer would be of no use if it were true, and that it is seldom, if ever, true is suggested by the fact that it has almost always been put forward as one of the defences of over-issue, and it seems unlikely that inconvertibility and a decline in the productiveness of industry so often go together.

4. The more acute Government apologists content themselves with alleging that the issue is only one of two or more causes tending to raise prices. There are always many causes tending to raise prices, so that this is sure to be true, and it does not in the least destroy the force of the proposition that the issue tends to raise prices.

5. We now come to what is at once the most insidious and the most dangerous of all the arguments in favour of increasing issues. This is that the issuers have no control over the issue and that it is "automatic," as it only takes place when the notes are asked for, so that they are "issued in response to a genuine demand and not forced on people." It might as well be claimed that the issue of pocket-money to a child is not under the control of its parents because it is automatic, only taking place when the money is asked for. Old-age pensions,

when first established, might have been paid for some years without any addition to taxation or debt, by giving the pensioners a one-pound note every four weeks, if no reserve had been kept against the notes : would the pensioner's genuine demand for the notes have justified the statement that the issue was automatic and the Government had no control over its amount ? If an extra hundred millions war-bonus (or peace-bonus for all the difference it makes) were paid by additions to the £1 and 10s. currency notes of £2,000,000 a week, would there not be a genuine demand for these additional notes ? If the Government hires schoolgirls at £2 a week to watch a simple machine and defrays the expense by giving each of them two new £1 currency notes which are clear additions to the amount already outstanding, can it be said that these girls do not exercise a genuine demand for the notes ?

Every monopolist producer controls his sales, and the Government manufacturer of notes is no exception. The monopolist of an ordinary commodity can limit his sales in one of two different ways, first, by offering a fixed amount of the product for sale by auction, and so letting the consumers determine the price, and secondly, by offering to sell any amount that may be inquired for at a price fixed by himself. The second is the usual method : it limits the total sold in the long run just as effectually as the other. If 100,000 bottles of some patent medicine can be sold at 3s. each, while 110,000 could scarcely be sold at 2s. 6d. and only 70,000 could be sold at 3s. 6d., it is all the same whether the monopolist says he will sell 100,000 bottles a year for what they will fetch, or says the price is 3s. and any one who likes can have a bottle at that rate. Just so with notes. The monopolist producers of notes control the issue either by saying they will issue such and such an amount,

or by fixing the price and selling as many as are demanded at that price.

The first method of limitation is easily understood : the producers enforce the limitation simply by not printing notes (and not allowing any one else to print them) beyond the prescribed number. The second method is enforced when notes are convertible into bullion, because that, as has been explained, fixes for them a price or value in bullion below which notes cannot be issued. When convertibility into bullion is absent, the price might be fixed in some other commodity than bullion—in lead for example, or rubber of some well-known quality. The issuers might be bound by law to give a certain number of pounds avoirdupois of lead or rubber in exchange for any note presented to them for redemption. But this would be re-establishing convertibility in the form of convertibility into lead or rubber instead of convertibility into bullion, and gold certainly will not be dethroned to make lead or rubber or any other single commodity reign as the standard of value. The only standard possibly superior to bullion is commodities in general. Actual convertibility of the note into commodities in general is impracticable: the Bank of England could not be asked to hand over the counter a basketful of the commodities represented in an index number. But, as we have seen, notes may circulate on a par with gold although they are not convertible into it, because the issuers may sufficiently limit them by watching the price of bullion and issuing more notes when that falls and fewer when it rises. So notes might be made to circulate on a par with a collection of commodities such as is represented in an index number of prices although they are not convertible into that collection, because the issuers might sufficiently limit them by watching the prices of these commo-

dities and issuing more notes when they fell and fewer when they rose. This is, however, the very last thing that in practice issuers, in the present state of economic instruction, are likely to do. They usually begin by adopting the exactly opposite principle because, incredible as it will appear to future ages, they think "when prices are high, more currency is required." Turn this round, express it in another way, and you have "when the value of currency is low more of it is required" and currency is thus made a striking exception to the general rule that the falling value of an article indicates that additional supply of it is becoming *less* required. It is of course no exception at all. When money is reckoned in gold and more gold is produced, the value of money falls (general prices rise) and this indicates that additional supply of gold is less required: when money is reckoned in notes and more notes are produced, the value of money falls (general prices rise) and this indicates that additional supply of notes is less required.

When more coal is produced, the value of coal falls, and this indicates that additional supply of coal is less required. Of course, if the coal-producers or the gold-producers accept a lower price for their product, they will find, down to a very low limit, plenty of "genuine demand" for it, but only because the demand has extended to take advantage of the lower price, and so it is with the note-producers: if they will accept smaller quantities of commodities and services in exchange for their notes, they will find down to a very low limit plenty of genuine demand for them, because they are cheaper. The only difference between coal and gold and notes is that coal is never money, while gold sometimes is, and notes always are: in consequence of which the value required in exchange for coal is always called its

"price," the value required for gold sometimes is and sometimes is not called its "price," and the value required for notes is never in ordinary language called their price.

The feeble reply of the apologists to some such criticism as this is that in fact the rise of prices and wages comes first. This would be perfectly immaterial if it were true, which it probably is not. If it were true, it would only mean that the increase of the note-issue was anticipated. When a Government has issued an additional £2,000,000 a week for months together, it is not unlikely that all business will be done on the assumption that this will continue. People may consciously or unconsciously expect a fall in the value of notes (a rise in general prices) just as well as they expect a rise in coal or jam.

When issuers have once adopted the absurd maxim "Higher prices : issue more notes," their country finds itself in what puzzled critics call a "vicious circle"—notes are increased, prices rise, notes must be further increased to "carry the rise," prices rise still further, and notes must be still further increased and so on. *Ad infinitum*? No certainly : there is always an end to it. Often the real or fancied emergency which led to the suspension of convertibility disappears before the process of bringing down the value of the notes has gone too far for recovery, and with the disappearance of the emergency much of the bias in favour of that course is lost, and a return is made, perhaps slowly (as in America after the Civil War), perhaps painfully (as in England after the Napoleonic War), to a bullion standard. Two great injustices have been committed : the first to those persons and classes who suffered by the fall in the value of money, and the second to those who suffered by its subsequent rise. The two do not cancel each other, since those who gain by the second

are not the identical persons who lost by the first, and vice versa. Institutions, too, suffer loss, though we can scarcely speak of justice in their case: one of the greatest losers is usually the State in its corporate capacity. The trifling gain made by issuing interest-free notes instead of interest-bearing loans is far more than set off by the higher prices which the State has to pay for everything which it buys during a period when its expenditure would in any case have been abnormally large—higher prices which lead to the contraction of debt far exceeding in magnitude what would have been the whole cost of the commodities and services obtained, if they had been paid for at the prices prevailing before and after the period of suspension.

Unless a halt is called the end comes with a crash. In saying above that increases of the supply of coal or gold would always find plenty of demand at sufficiently reduced prices "down to a very low limit," we had in mind that no commodity is wanted in indefinite quantities. However the demand may extend, it will not extend indefinitely, and with every commodity there is a point beyond which no more will be required, however cheap the commodity can be got. It would take a considerable increase in the supply of coal to London to bring its price there down from say 30s. to 10s. a ton, but if a further increase of supply brought it down to 2s., it is quite certain that a very little increase on the top of that would bring it down to almost nothing. Nobody wants indefinite amounts. So, too, with gold, perhaps even more clearly: very cheap gold would be unsuitable for currency and for ostentatious ornament, so two of the principal sources of demand for gold would cease to exist if gold were found in very large quantities. So it is with notes. As long as their increase is sufficiently slow and the total

amount not "unreasonably" large, no one thinks of questioning their utility as currency, and there is plenty of demand at the lower price at which they are put on the market. But if the increase goes on, sooner or later there comes a time when the increase is so rapid or the total outstanding becomes so large that even "the public" begins to wonder "what all this means," and when that happens distrust soon sets in, the general acceptability of the notes suddenly ceases, and they become absolutely worthless: some other currency is found to take their place.

The conclusion to which this section has led us is that where the unit of account is a note, the value of money and the general level of prices depend on the will of the issuers, and that the issuers may, and probably will, if not restrained, bring the value of money down so low and drive prices up so high that confidence in the notes disappears and some other unit of account, such as coin or bullion, has to be used.

The conclusion of the whole inquiry is that the value of money, which is the same thing as the general level of prices regarded inversely, is not an anomalous or even very peculiar thing, but depends in the same way as the value of other commodities upon the various influences which affect demand and supply: and that if peoples dislike the rise of prices which is another name for a fall in the value of money, they should insist on adequate limitation of the supply of money.

This is a conclusion which has long been familiar to economists; it is time it was grasped by the men who pride themselves on being practical.

The above sections were written in August and September, 1918, several months before the Armistice and before any one supposed that the outpouring of currency would continue long after the war was finished.

During the war it was difficult to discuss contemporary history in public with any considerable frankness. Now, in 1920, it is more worth while to examine the application to our own time of the general theory expounded in the foregoing pages.

§ 6. *Erroneous explanations of the rise of prices in 1914-20.*

Innumerable causes, other than increase of currencies, have been suggested for the enormous rise of prices which has taken place since July, 1914, but three only seem worthy of detailed examination : (1) Scarcity of commodities, (2) rise of wages and (3) increase of bank deposits.

(1) It is said very commonly that things are so dear because the supply has been so short since the war began. The first objection to be made to this doctrine is that it does not account for the dearness of things such as old books and pictures of which in fact the supply has been just as great as before the war.

Waiving this we may point out that if the supply of literally everything had fallen off, the supply of the precious metals and of currency, whether made of the precious metals or paper, would have fallen off, and the scarcity of currency would be a counteracting influence working against the scarcity of other commodities and services. We should not expect mankind to have higher prices merely because men had become, owing to disorganisation or any other cause, less able or willing to produce ordinary commodities and services, if at the same time their currency had been reduced in due proportion. A world poorer in all commodities *including currency* would not have higher prices.

So it appears that when the explanation of scarcity of commodities is put forward, what must be

meant is not scarcity of all things including currency, but scarcity of all things other than currency—in other words a scarcity of "goods" in proportion to currency, which is the same thing as plentifulness of currency in proportion to "goods." So far as abstract theory goes, there can be found no difference of opinion between those who say that high prices are caused by less goods in proportion to currency and those who say that they are caused by more currency in proportion to goods.

But there is a very considerable difference between those who say that the actual rise of prices during and after the war is due chiefly to diminution of goods and those who say it is due chiefly to increase of currency. This is not economic theory but economic history—the intelligent interpretation of economic facts. It may be roughly true that the rise of prices has been greatest where the disorganisation and consequent reduction of output of goods is greatest: in Russia for example greater than in France, and in France greater than in the United States. But this is due to the fact that the governments of the countries where disorganisation is greatest are naturally those which are in greatest financial straits and consequently the most inclined to pay their way by increasing their paper currencies.

It is impossible to name a single country where the increase of currency could be reasonably alleged not to be very much greater than the diminution in goods. Europe is sometimes said to be starving, but if the necessities of life had diminished in anything like the proportion in which the currencies have increased, more than half the population would have disappeared long ago. Of course there is considerable difficulty in determining what exactly is meant by, say a fifty per cent. diminution of goods in general, as they cannot be supposed to diminish

all in exactly the same proportion. So it may be suggested that a diminution of all goods proportionate to the large increases of currency might have occurred in the form of a comparatively small reduction of necessities and a very large reduction in luxuries. But this suggestion fails, firstly because luxuries are not a sufficiently large part of expenditure to allow of the required diminution being made in that way, and secondly, because statistics and common observation show that there has been no very enormous diminution in luxuries.

As for practical policy, it is to be remarked that even if there would have been some rise of prices in the absence of any increase of currencies, that would not have furnished a reason or excuse for increasing currencies, but rather the contrary. If, as is generally believed, stable prices are desirable, currency should be diminished, not increased, when things to buy are scarce. The old opinion that rising general prices stimulate production was probably always unconsciously based on an illogical deduction from the fact that a rise in the price of a particular kind of product encourages the production of that product. Recent experience seems to refute the deduction, and to suggest that at any rate a rapid rise of general prices causes all kinds of disorganisation and hindrances to production.

(2) Next we find that persons whose incomes consist chiefly of profits obtained by employing others at wages and selling the product, very commonly attribute the rise of prices to the rise of wages. When it is objected that the increased wages have generally been asked for and granted on the ground of the increased cost of living, which suggests that the rise in the price of things people live on precedes instead of following the rise of wages, these persons

answer that there is "a vicious circle." The rise of wages, they say, raises the cost of living, and the rise in the cost of living causes a new rise of wages, which in turn causes a new rise in the cost of living, and so on *ad infinitum*. But awkward questions present themselves. If there is no end to it, why was there ever a beginning? And when was the beginning? Why did the "vicious circle" only begin to work when the paper currencies began to flow into circulation? If it is alleged that the rise of wages necessitated the outflow of currency, we may inquire why the rise took place at that particular time, and if it is attributed to the outbreak of the war, we may ask why the reverse effect was not produced by the outbreak of peace.

What is called "the vicious circle of rising prices and rising wages," if it existed, would be an example of "perpetual motion." The term "vicious circle" is commonly used of the particular kind of argument of which the doctrine that wages rise because prices rise and prices rise because wages rise is an excellent example.

The rise of wages which has taken place, so far from being both cause and effect of the general rise of prices, is neither a cause nor an effect of it. It is simply part of the rise of prices. It is not a rise of wages in the sense of an increase of annual earnings due to greater output at the same piece-rates: it is a rise of piece-rates. A rise in the workers' piece-rates is a part of the rise of prices just as much as the rise of the rent of land or houses or the hire of any kind of machinery. The only difference is that the public seems to expect the owners of property to take their share of the increased price without giving any excuses, while, influenced by long-exploded economic doctrines, it expects the workers to excuse themselves by alleging that they cannot live on the old amount

of money now that it will buy less : an incidental consequence of which is that the higher class workers, who quite obviously can live on less than they used to do, have to wait longer before the necessity of raising their salaries is recognised.

(3) If not a majority at any rate an influential and highly articulate minority of bankers and other persons concerned particularly with finance, believe that the rise of prices is due to government borrowing from banks and a consequent increase in the total of bank deposits, which, they say, are purchasing power just as much as currency. The increase of deposits, they say, being much greater in absolute amount than the increase in currency, has had much more effect in raising prices.

This explanation is admittedly particularist as regards both place and time. No one supposes that the depreciation of the Russian rouble, much greater than that of the English pound, is due principally to increase of deposits in the Russian banks. Nor does any historian known to me attribute the depreciation of the assignats in France, of the greenbacks in the United States, or even of the Bank of England notes in the inconvertible period of 1797-1821, to the increase of bank deposits at the time.

This particularism suggests that the objection is bad, but is not conclusive against it. Let us examine it carefully.

It appears to be based on a fundamental misconception of what happens in deposit banking. What really happens is that A, B and C, having more money than they want to spend immediately, leave some of it for safety, convenience, and perhaps some small interest, with a person called a banker, and allow him to do what he likes with it on condition that he shall be always ready in business hours to

pay them or any one whom they nominate as much of it as they require. He, being intimately acquainted with their habits, knowing them perhaps better than they do themselves, can tell very nearly how much they will take out and put in next week, a little less approximately how much they will take out and put in the week after, and so on for a good many weeks. Consequently he is able with great safety in all ordinary times to lend out to X, Y and Z, who have not as much money as they can use profitably, a large portion of what A, B and C have lent him. It is only the fact that he cannot know exactly when A, B and C will draw out, and cannot tie X, Y and Z to repay exactly at the same time, which prevents him from trying to lend out the whole of what has been lent to him. As things are, he finds it prudent to keep a considerable margin in hand. He may be fairly sure that A, B and C will have £100,000 to their credit a month from now, but to be on the safe side he had better assume that the amount may be, say, only £80,000, and so arrange to have only £80,000 lent at that period—or, in other words to have "a reserve" of £20,000.

The first introduction of this system and its subsequent extension evidently economise currency, and it is natural to suppose that anything which reduces the aggregate demand for currency must diminish the purchasing power of money. But some caution is necessary here. If the economy of currency effected is merely economy of convertible notes, no depreciation in the value of money will result. We have seen (pp. 46-9) that the introduction of convertible notes has some effect in depreciating the value of money, but if convertible notes have once come into circulation, and then people begin to prefer having a balance at a bank instead of a stock of convertible notes in their own custody, the notes are

paid in and disappear from circulation, being replaced by "deposits," without affecting the aggregate spending of the community in the least. A, B and C are just where they were, and the bankers cannot lend X, Y and Z a penny more than before.

If the economy effected is economy of coin freely interchangeable with bullion, a certain amount of coined metal is released from monetary use, and consequently the supply of bullion for non-monetary purposes in the world at large is increased, but owing to the elasticity of the world-wide demand for the metal for non-monetary purposes, its depreciation is not likely to be great (cf. above p. 47).

If the economy effected is economy of inconvertible notes, the case will be exactly the same as that of convertible notes provided that the issuers choose voluntarily to reduce the issue of inconvertible notes exactly as much as the issue of convertible notes would have been automatically reduced. It is only where (a) the economy which might be effected is economy of inconvertible notes, and (b) the issuers, instead of correspondingly reducing the issue, keep it just as large as it would otherwise have been, that we should expect the introduction of deposit banking into a particular country to cause a sharp depreciation of that country's money by appreciably increasing the currency to be spent there.

Further, after the introduction of deposit banking has once reduced the private holdings of coin and notes to its minimum, the further increase of the aggregate of deposits no longer indicates any actual further economy of coin or notes. It may be that the increase shows that if deposit banking had not been in force, more currency would have been required, but it does not show that any actual currency has been dispensed with. This will be seen if the causes of further increase of deposits are considered.

In the first place there is increase of population. Additional persons coming to years of discretion, instead of collecting large private holdings of coin and notes, keep small holdings, and start bank accounts: they release no already existing coin or notes. Secondly, there is the increase of wealth. *Ceteris paribus*, the richer people grow, the bigger their bank balances; but no already existing coin or notes are released. Thirdly, there is an important cause of temporary fluctuation of the growth of deposits in the greater or less hesitation displayed by depositors in laying out money in business or investment. When they hurry to lay out money they reduce or reverse the normal growth of deposits; when they hang back they accelerate the normal growth. When they hurry, they invest or lend more, and the banks have less to invest or lend: when they hang back, they invest or lend less, and the banks have more to invest or lend. The greater amount of deposits in this latter case does not mean that there has been any increase in aggregate spending and consequent depreciation of money. It simply means that more investment and lending has been done through the banks as intermediaries and less directly by the real capitalists, the depositors. If people were content to leave much more money on deposit at banks, an immense extension of deposits would be possible without the smallest increase of spending. For example, the practice of private persons lending money on mortgage might be replaced by their putting the same amount on deposit with banks, and the banks lending it on mortgage. It would obviously be absurd to suggest that such a change would increase and depreciate the currency. It would be childish to suggest that the banks had "created the money."

None of these causes of change have been of great

importance during the past six years, and the great increase which has taken place in deposits is not to be explained by any of them. It is simply the result of the phenomenon of which it is supposed to be the cause—the depreciation of the purchasing power of money. Any one can see that if by Act of Parliament pennies were to be called pounds, the aggregate number of pounds in the banks' deposits would be 240 times what it is (or thereabouts, seeing that the confusion caused by the change in contracts would cause some divergence). Any one can also see that so long as £1 was equivalent to $123\frac{1}{4}$ grains of standard gold, the amount of deposits depended on the value of gold. If gold had fallen to $2\frac{1}{2}\sigma$ of its former value, deposits would have risen to about 240 times as many pounds sterling as formerly. If our incomes and property were valued at 240 times as many pounds as formerly, we should naturally keep 240 times as many pounds at our banks. Otherwise we could not pay our way and do our business.

Now since 1914 the unit of account has lost rather more than half its value; what is there surprising in bank deposits having about doubled?

There is nothing odd or suspicious in the increased amount of money left with the banks by A, B and C having been largely lent to the Government. During the war the ordinary channels of investment were largely closed, and the Government borrowed what would otherwise have been lent by the banks to their usual debtors, X, Y and Z.

§ 7. *Actual explanation of the rise of prices in 1914-20.*

For some years before the war a gradual rise of prices was taking place. This was undoubtedly due to the relation between the demand for gold and the supply of it having been such that a depre-

ciation of gold was inevitable. The demand, though good, was not increasing sufficiently to take off at the old value (measured in general commodities and services) the large annual production which, when the South African war was over, succeeded the small production of the last part of the nineteenth century. If the late war had not occurred, that rise would have continued, and prices would now be substantially higher than in 1913, though of course not nearly so high as they actually are.

The great rise which every one quite justly ascribes to the war is not such a complete and indivisible whole as the smaller rise which was going on before it. It is a rise which, though general, is of quite different magnitude in different countries. Within the area which used gold money before the war there is one set of countries, of which the United States is the principal, where the unit of account (e.g. the United States dollar) is still equal to a definite amount of gold, and that amount the same as before the war. These countries still move together in regard to prices, because they reckon them in the same standard. But the other countries have given up reckoning the prices of things in bits of gold of a certain weight and fineness, called sovereigns, twenty-mark pieces, Napoleons and such-like. They reckon prices as before in pounds, marks and francs, but these are only paper notes which people are bound by law to accept in payment of a debt of a pound, a mark or a franc, and which will no longer do what they or similar documents did before the war, i.e. buy or procure for the holder certain definite amounts of gold which he can use as he pleases. Before the war, in this country any one who had a pound sterling due to him from a solvent person could demand and receive a gold sovereign which he could do what he liked with—sell it to somebody abroad, probably

to be melted down and coined into the currency of another country, or convert it into ornaments or dentists' material, or simply pay it away as he pleased. At the present time, on the contrary there is no such interchangeability, or "convertibility" as it is called, between the actual medium of exchange and definite amounts of gold. True, if you have the requisite courage, you may go to the Bank of England and demand a sovereign in exchange for a £1 Currency Note, or five sovereigns in exchange for a £5 Bank of England note, but you will be carefully watched by detectives (at considerable expense to the State) and if you do anything which looks like preparing to melt down the coin or export it you will be fined or imprisoned. In other countries there is no such "British hypocrisy," and the paper is frankly inconvertible—the issuers, whether Government itself or a Government bank, make no pretence that the paper rouble, mark or franc is equal to gold coin. In fact all these paper units are worth much less than the gold to which they used to be equal is still worth. They are greatly "depreciated against gold." Sometimes people say that gold has appreciated, which is rather a natural thing to say when we hear that "the price of gold has risen." But it is misleading, since gold itself has depreciated against commodities and services in general. It is better to speak of gold as depreciated, and of these paper currencies as depreciated against this depreciated gold, and of course necessarily still more depreciated against commodities and services, which have accordingly risen in price still more in the paper standard countries than in the gold standard countries.

The depreciation and consequent rise of prices is not uniform over all the paper countries, but varies greatly.

Thus there are two great questions, first, why has

gold depreciated so that prices have risen even in the countries still reckoning in a gold standard, and secondly, why have the different paper standards depreciated still more and in varying degrees, so that the rise of prices, though everywhere greater than in the countries still using gold, is much greater in some of the paper countries than in others—in Russia than in France, for example, and in France than in England.

1. Gold has depreciated, because, while the stock was subject to no unusual wear and tear and the annual production went on almost undisturbed, the demand for it was immensely reduced by the war. Unlike most other important metals, it is not used in the manufacture of munitions of war, and little of it is used for other absolutely necessary purposes, while on the other hand, being indestructible and containing much value in small bulk, it was a useful thing for necessitous countries to sell in order to buy with it things more urgently wanted. Accordingly the belligerent states stopped buying any of the new gold produced in the world from month to month, and, going further, sent out a good deal of their old stock both of currency and ornamental gold into the neutral countries in order to buy munitions with. Thus the people of the neutral countries were offered the whole of the annual world's output of gold and also a considerable amount of the old stock of the belligerent countries, and naturally they got it cheap, that is, they did not give as much commodities and services for an ounce of it as they would have done before the war. In other words, prices rose when measured in gold. They have not fallen again because the annual output of gold goes on almost undiminished, and the belligerent countries have not yet, at any rate, been restored to their old position of large demanders.

For convenience of exposition I have in the preceding paragraph spoken only of the depreciation of gold in the neutral countries. But of course this depreciation is not confined to the countries which were neutral during the war, but is universal throughout the world: the stoppage of demand in the belligerent countries caused the value of gold to fall there as well as outside. In no country in the world will an ounce of gold buy nearly as much commodities and services as it did before the war. We are apt to forget this when we read that the value of the gold in a sovereign is 26s. or something of that sort, until we remember that 26s. will not buy nearly as much as £1 did before the war.

2. So much for the general rise of prices measured in gold. Now for paper prices. Any country which found it advisable to substitute a paper for a gold currency might conceivably have limited the paper currency to the amount which would have just sufficed to keep its value close to the value of the gold it represented when the substitution began to be effected. For example, when our £1 Currency Notes began to be issued, not only in England but all over the world a £5 Bank of England note had for a century been worth almost the same as five times 123½ grains of standard gold, and the Currency Note began to circulate at the same value in gold, £1 being worth 123½ grains of standard (or about 113 of the fine gold which the bullion market buys and sells). By adequate limitation of the supply of both kinds of notes this relation between notes and gold would have been preserved.

But the governments concerned thought it impossible thus to limit their issues. On the outbreak of the war they all very naturally began to buy goods and services regardless of expense. Sometimes in time of peace private individuals, overcome

by a general wave of optimism, by common consent take to buying much more than usual : then a "boom" sets in, prices rise, and producers, i.e. the community's producing side, think themselves very prosperous. Soon, however, they find that they are beginning to have to pay more for the commodities and services which they require in order to be able to sell finished products, so that their prospects are not nearly so rosy as they supposed, a "pinch for money" appears, and eventually, after some kind of financial crash, depression ensues. A government, however, which has started a war boom, has the power of postponing for a time the inevitable reaction, and feels that it must exercise this power or lose the war. Having ordered goods and services regardless of expense, it must pay for them somehow. With a currency of the existing magnitude it feels it cannot raise enough money either by taxation or by borrowing. The only resource it thinks, is to create more currency.

The additional currency helps in two ways. First directly, because the government gets additional money to spend quickly and at no expense except the negligible expense of paper and print, so that it is able to get commodities and services from its people quicker than it could by taxing and without its people recognising that they are (as a body), just as much as when they pay taxes, giving up something which they would otherwise enjoy. Secondly, indirectly, because the spending of the new money is as clear an addition to the money-spending of the community as if a man fell out of the moon with the amount in his pocket and proceeded to spend it here ; it therefore prevents the "pinch for money" and removes the impossibility of the boom high prices being maintained. There is no crash, the money-yield of the taxes goes up because money-

incomes and the prices of articles taxed *ad valorem* rise, and (which is more important) it becomes easier for the government to borrow money, since money-incomes are raised, and though the cost of living is raised too, the surplus which the saving person has over his expenses will be greater, e.g. if a man is getting £1,000 a year and saving £200 of it and then his income (in money) and his expenses (in money) both double, he will be saving and able to lend the Government not £200 but £400.

It will be said, especially in the light of the example just given, that this alleged second and indirect advantage to the Government is obviously unreal, inasmuch as government will lose as much or more by having to pay higher prices as it gains by being able to borrow easier. That is true, but the excuse put forward on behalf of the governments is that if any one of them had allowed a financial crash to take place, its people would have realized the real burden of the war and refused to go on with it. I am not a politician, and will not attempt to decide how far this excuse is valid in any particular case. I will content myself with remarking that it is obvious that the excuse is not a very good one for the defeated countries, since it would have been better for them if they *had* refused to go on.

Whatever the explanation of the issue of more currency, and whether it was justifiable or not, it took place, and continued not only during the war but down to the present time, the average weekly addition being indeed in some countries very much greater than it was in the height of the war. Hence the continued rise of prices at various rates in the different countries which occasions what is called "the dislocation of the exchanges." The exchanges have been dislodged from their old rate simply because the different paper units of account, pounds, francs,

marks, etc., have been issued in various degrees of excess, so that their relative purchasing power has altered. A pound exchanges for many more francs than it did before the war, because the issue of paper francs has been much more excessive than that of pounds: a pound exchanges for fewer American dollars than it did before the war because the issue of American paper dollars, though great, is limited to an amount which keeps them in their old relation to gold, while the issue of English paper pounds is not similarly limited.

The future is doubtful. Some currencies, now depreciated, including the British pound, will probably be restored to their pre-war gold value by adequate limitation of supply. Others, much more depreciated, may be fixed in relation to gold at much below the pre-war level. In still other countries the existing paper, like the assignats and quite recently the various Mexican issues, will simply become waste paper and be replaced by a metallic currency. But whether gold itself will recover any or much the value which it has lost no man can tell, because it is at present impossible to estimate how far the currencies of the future will consist of gold and provide a continuous demand for the annual output, which is itself impossible to predict.

APPENDIX ON THE PERIOD 1914-20

1. *The Movement of Gold.*—In spite of much gold having been drawn in from active circulation as currency and some from use as ornament, the aggregate gold banking reserves of the United Kingdom, France, Italy, Germany and Austria-Hungary (or rather the Austro-Hungarian Bank), according to the Swiss Bank Corporation's *Financial and Commercial Review* for 1919, fell from £381m. at June, 1914, to £370m. at December, 1919, while those of the European neutrals—Spain, Switzerland, Holland, Denmark, Sweden and Norway, rose from £55m. to £208m., and those of Japan, the United States, and Argentina, rose from £438m. to £745m. These figures, though incomplete, are sufficient to show how gold has been deprived of a large and important part of its market, and consequently been made more plentiful in the rest of the world, with the natural result of a great fall in its value or purchasing power everywhere.

2. *The Increase of Paper Currencies.*—According to the same authority, the note circulations of Japan, the United States and Argentina, did not quite double during the same period, rising from £637m. to £1,210m. Those of the European neutrals more than doubled, rising from £140m. to £375m. But those of the five European belligerents mentioned above increased

nearly thirteenfold, from £591m. to £7,457m. A most unsatisfactory feature of this increase was that no less than £2,176m. of it occurred in 1919; that is, in the calendar year which began seven weeks after the Armistice, these countries in the aggregate added to their paper currencies twice as fast as they added to them during the war. The British increase for 1919 was £42m., a little less than half the average annual increase during the war, but the French increase was thirty per cent. more than the war average, the Italian about double, and the German and Austro-Hungarian each more than two and a half times as much. Nor is any general slackening observable in the first four months of 1920.

3. *The Depreciation of the Paper Currencies.*—In these computations the £1 note is of course taken as £1, and the foreign currencies at their old par values—25 francs., 20 marks, and so on, to the pound. Worked out per head of population, man, woman and child, the figure of £7,457m. gives what would, at the old level of prices, be grotesquely large amounts, namely, £10 for the United Kingdom, £20·7 for Italy, £35·9 for France, £37·5 for Germany, and some much higher figure for the Austro-Hungarian area. The most impoverished European belligerents rolling in money, while the neutral Dutch managed to do with £12·8, the Argentines with £12·3, and the Americans with £9·3 per head! But the plethora of paper money had naturally reduced its purchasing power even compared with the greatly appreciated gold. A hundred pounds sterling were only worth the gold contents of 77·5 sovereigns; 100 francs were only worth the gold which used to be made into 47·5 francs in gold Napoleons; 100 lire what used to be made into 39 lire; and 100 marks what was made into 8·4 marks in gold coin. Applying these percentages, we find the British man, woman and child, in possession

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of only the equivalent of the gold in 7.75 sovereigns, the Italian in possession of the equivalent of 8.07 sovereigns, the Frenchman, 17.05, and the German, 3.15. The astonishing discrepancy between the last two of these figures could not possibly endure, and in fact has been somewhat reduced in the first four months of 1920.

4. *The Relative rise of Prices in different Countries.*—For figures illustrating the connexion between issues of currency and the prices of commodities, the reader should refer to the return moved for by Lord D'Abernon called *Statements of Production, Price Movements and Currency Expansion in certain Countries* (Cd. 434, price 1d.), and any continuations of it which may appear.

ADDENDUM ON THE YEAR 1920

The above pages from p. 64 onwards, written in April, 1920, may now in February, 1921, be supplemented by a few words on the year 1920.

1. *The Movement of Gold.*—The Swiss Bank Corporation's *Review* for 1920 shows little change in gold reserves except that those of Japan and Argentina increased by £27½m. and £16m. respectively. An apparent increase of £36m. in the holding of Great Britain is unreal, being for the most part merely the result of the Bank of England, whose stock is published, having taken over gold from the other banks, whose stocks are not published.

The Eastern demand for gold for private hoarding and ornament was allowed to work more freely than in the preceding five years, but it is difficult to see much reason for suspecting any increase in the world's demand for these purposes. There was no special effort to increase bank reserves, and the demand for active circulation was nowhere resuscitated.

On the side of supply, or as the French more conveniently say, on the side of the "offer," we may discern some change. Gold is no exception to the rule that a fall in the value of a product discourages the output. People only imagine it to be an exception because they calculate the value of gold in depreciated paper, thinking, for example, that gold is high when the price of it in English paper pounds has risen from £4.25 to £5.25, without reflecting that £5 5s. is worth much less in the commodities and services which they want to buy than £4 5s. was some years ago. There is no getting over the fact that when an ounce of gold will procure less of the goods and services necessary for working gold-mines, gold-mining becomes less profitable, and the least fertile mines cease to be worked. The world's output of gold continued to fall in 1920, as it had been doing ever since 1915, the total decline between these years being about 25 per cent.

On the top of this diminution of the supply proper there came at last in 1920 a check to the offer of gold by the belligerent area to the rest of the world. During the war, as we have seen, the belligerents parted with great quantities of gold in exchange for munitions, and in 1919, after it was over, Germany had to give up £58½m. of her stock in the Reichsbank. In 1920 there was no such unloading, so that on the whole, taking both demand and offer into consideration, we need not be surprised that in the course of the year the long-continued fall in the value or purchasing power of gold was stopped. That the change was as violent as is shown in the price statistics of the United States and other countries, and caused so much dislocation as is shown in unemployment statistics, is due to deficiency of human foresight, as explained above, p. 21 ff. A whole literature concerning booms and depressions has been devoted to the manner in

which erroneous forecasts exaggerate such changes.

2. *The Increase and Decrease of Paper Currencies.*—Increase was no longer universal, since the paper currency of the United States was reduced from £983m. to £954m. (at Dec. 1) and that of Japan from £159m. to £146m. The British paper apparently increased from £465m. to £510m., but £15½m. of this is due to a double reckoning caused by increase of Bank of England notes held against Currency Notes, while a sum about equivalent to the remaining £29½m. is believed to consist of Bank of England notes received by the other banks in exchange for their gold and held by them as tightly in reserve as the gold was. The French increase of about 630 million francs was small compared with the 7 milliard increase of 1919. The Italian increase was about 2½ milliards as against 5 milliards in the year before. But the German increase rose from about 17 milliards of marks during 1919 to about 43 milliards during 1920. Countries not severely hit by the war, which might easily have followed the United States in adhering to the gold standard, failed to do so. They took no steps to reduce their paper, and by maintaining wholly unnecessary embargoes on the export of gold, they prevented a reduction being effected automatically. Some of them even moved in the wrong direction; the paper increased about 16 per cent in Argentina, 14 per cent in Denmark, and 12 per cent in Spain.

3. *The Depreciation of the Paper Currencies.*—If currencies are taken at their old par values, the amount of money per head of population at the end of the year shows even more ludicrous discrepancies than at the end of 1919. To each person in the United States there appear about £9, to each in Italy about £22, to each in France about £36, and to each in Germany something like £70. But

APPENDIX ON THE PERIOD 1914-20 85

when depreciation is allowed for, and each person is credited with only the gold sovereigns which his paper would buy in an outside and unrestricted market, the American reappears with 9 sovereigns, the Frenchman with 11, the Italian and the German 4 each. Thus the suggestion made on p. 82 that the French and German values would have to come closer has been borne out, though the discrepancy is still far too wide to be enduring. The following table shows the extent to which currencies were depreciated against gold at the beginning and end of 1920 :—

PERCENTAGE OF THEIR PAR GOLD VALUE POSSESSED
BY CURRENCIES

Country.	Jan. 2, 1920.	Dec. 31, 1920.	Loss or gain per cent. on Jan. 2.
Argentina.	102.0	78.1	— 24
Japan	101.2	95.2	— 6
U.S.A.	100.0	100.0	Nil.
Spain	99.5	69.2	— 30
Holland	93.1	78.2	— 17
Switzerland	92.9	79.2	— 15
Brazil	87.1	44.6	— 49
Sweden	80.3	74.6	— 7
U.K.	77.7	72.7	— 6
Greece	76.5	38.2	— 50
Norway	75.8	57.3	— 24
Denmark	71.1	57.2	— 20
France	48.1	30.5	— 37
Italy	39.2	18.0	— 54
Portugal	28.5	9.6	— 66
Finland	15.4	15.8	+ 3
Germany	8.5	5.8	— 32
Poland	5.0	0.7	— 86

4. *The Relative variation of Prices in Different Countries.*—A continuation (Cd. 734, price 2d.) dated May 29, 1920, of Lord D'Abernon's return has been published, but is disappointing in not extending to the countries which have the more heavily depreciated currencies, and of course it does not cover the year 1920. It must be remembered that the index numbers of prices are still much less trustworthy than in normal times: taxation and government subsidies have confused them, unusual scarcities of particular articles have often exercised too much influence in raising the index number because there was no provision for diminishing the "weight" of the article as substitutes took its place. It should also be remembered that though when a paper currency is healthy, little of it is held in countries other than that in which it is issued, a great deal is often held abroad in times when its relative value is expected by foreigners to rise. Then the foreign speculator comes to the assistance of the issuing country, in effect making it a loan without interest, by purchasing and storing away its currency. This prevents an increased issue from immediately raising home prices and depressing foreign exchange as much as it would otherwise do. Later, when the foreigner, disillusioned, sells his unfortunate investment for what it will fetch, the additional paper comes for the first time upon the home market and raises prices there just as if it were then newly issued. The D'Abernon return is supplemented in some respects by Paper No. III (revised edition), *Currency Statistics* of the Brussels International Financial Conference, 1920.

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